UNCC GRADUATE CATALOG 1977-78

THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

Correspondence Directory

If, after reading this catalog, you have further questions, or wish to make specific inquiries about a graduate program at the University of North Carolina at Charlotte, please look below to find the proper office to contact.

Admission:	Director of Graduate Studies AC 704/597-2351
Summer Session:	Director of Summer Sessions AC 704/597-2424
Evening Program:	Director of the Evening Program AC 704/597-2224

(The Director of the Evening Program maintains office hours from 8:30 a.m. to 5:30 p.m. on Monday through Friday during the academic year and can deal with questions concerning graduate studies which arise after 5:30 p.m. by appointment.)

Continuing Education:	Director of Continuing Education AC 704/597-2424
Campus Housing:	Director of Residence Life AC 704/597-2263

Note: The Graduate Office is open Monday through Friday from 8:30 a.m. to 5:30 p.m. during the academic year and from 8 a.m. to 5 p.m. during the summer session.

Address all correspondence to the respective departments in care of:

The University of North Carolina at Charlotte
UNCC Station
Charlotte, North Carolina 28223

The University of North Carolina at Charlotte is an equal opportunity institution and subscribes to all requirements of federal law not to discriminate with respect to students, employees or applicants on the basis of sex, race, color, national origin, handicapped status, age, veteran status, or religion.

THE UNIVERSITY

The University of North Carolina at Charlotte is one of a large number of new universities located in urban areas. The development of these new institutions near our nation's largest cities reflects the contemporary influence of urban life. The city is the laboratory of life in America today.

UNCC is located in the largest urban center of the two Carolinas. With a metropolitan population of almost 400,000, Charlotte ranks as the largest city in the Piedmont Crescent, an area which population experts predict will become the fifth largest urban complex in the nation by the turn of the century.

UNCC offers its students the opportunities to study and become involved in the problems of life in the city. Many distinguished American universities located in isolated areas are taking students to urban centers in order that they may study the city first hand, taking advantage of the wealth of cultural opportunities available only in urban surroundings.

The University of North Carolina at Charlotte is one of the campuses of the University of North Carolina system. Thus, while the University feels free to experiment and innovate, at the same time it has the ability to draw upon the wisdom and experience of years of tradition.

PURPOSE

No formal statement of purpose has been devised at UNCC; however, the following principles have been agreed upon:

Recognizing that knowledge is man's awareness of himself and the universe and that learning is the process of discovery which extends the individual's awareness, the University of North Carolina at Charlotte exists to provide an environment which encourages and nurtures the continuing process of discovery.

The University of North Carolina at Charlotte gives first priority to the development of excellence in teaching. Moreover, the University is dedicated to provide both graduate and undergraduate instruction, as well as research opportunities, in the basic natural sciences, the social sciences, the humanities, the fine arts, teacher education and certain professional areas.

Responding to the needs of a rapidly urbanizing society in which it is situated, the University involves itself in intellectual and cultural exchange with the immediate community and the State of North Carolina.

In order that the University not limit its horizons to the boundary of its county, state or nation, however, there is an emphasis upon international issues with the realization that much of learning—language, literature, technology, the arts—is international in origin and scope.

The University of North Carolina at Charlotte is committed to the concept of lifelong learning and provides opportunities for educational enrichment and renewal to members of the public in addition to those enrolled in degree and credit programs.

In its relationship with students, faculty and staff members, alumni and the public, the University treats each person as an individual, respecting differences and guaranteeing individual rights of citizenship.

HISTORY

The University of North Carolina at Charlotte was created by the North Carolina General Assembly in 1965. The legislation made Charlotte College, UNCC's predecessor institution, the fourth campus of the consolidated University of North Carolina. In 1972, the University of North Carolina system was restructured, and UNCC became one of the 16 public senior institutions composing the system.

UNCC can trace its lineage to 1946 with the establishment of the Charlotte Center of the University of North Carolina. The center became Charlotte College in 1949. Offering a junior college curriculum, the College operated under the Charlotte Board of School Commissioners until 1958 when it became a part of the North Carolina community college system. In 1963, Charlotte College became a four-year institution.

Dr. D. W. Colvard was elected the first chancellor of the Charlotte campus on January 28, 1966, and the University awarded its first baccalaureate degrees in May of that year.

Dr. Bonnie E. Cone, who had brought the institution to university status as president of Charlotte College, later serving as acting chancellor, was appointed vice chancellor for student affairs and community relations. She became vice chancellor emerita on July 1, 1973, and was succeeded by Dr. Douglas M. Orr, Jr. Dr. William Hugh McEniry was appointed vice chancellor for academic affairs in 1967. Dr. McEniry died March 15, 1974, and Dr. Philip E. Hildreth was named vice chancellor for academic affairs. The position of business manager was upgraded to a vice chancellorship in 1971, and Mr. Leo E. Ells was appointed to that position in 1976. A vice chancellorship for de-

velopment was established that year, too, and Dr. William M. Britt was appointed to the position.

To give leadership to the academic program and in the sharing of academic and planning responsibilities, division chairmen were appointed in the fall of 1968. When the University's academic divisions were converted into colleges in 1970, the division chairmen were appointed deans of their respective colleges. A director of graduate studies was named in the fall of that year.

THE CAMPUS

UNCC's campus is located eight miles north of downtown Charlotte on N.C. Highway 49 near its intersection with U.S. Highway 29, and adjoining Interstate 85.

The buildings stand on a rolling campus of forest, streams, ponds and fields comprising more than 1,000 acres. Distinctly contemporary in architecture and functional in use, the campus offers an attractive and comfortable setting in which the student may spend his college years. All facilities, except for some large activity areas, are air-conditioned.

ACCREDITATION

UNCC is fully accredited by the Southern Association of Colleges and Schools, the North Carolina Association of Colleges and Universities, the North Carolina Board of Nursing and the National League for Nursing. The University's education program is approved for teacher certification by the North Carolina State Department of Education. UNCC is on the approved list of the American Chemical Society, and programs within the College of Engineering are accredited by the Engineers' Council for Professional Development.

The University is a member of the Council of Graduate Schools in the United States and the Conference of Southern Graduate Schools.

FACULTY

A team of outstanding educators has been assembled to give leadership to a basically young and highly qualified faculty. Faculty members at UNCC have accepted the challenges of building a new institution. They are willing to sacrifice the stability they might have found in established universities for the satis-

faction of helping to build a new and modern university, one which is aware of and receptive to its commitment to the wider community it serves.

DEGREES

The University of North Carolina at Charlotte is authorized to award the following graduate degrees:

Master of Arts
  Geography, Mathematics
Master of Arts in Education
  English, History, Mathematics
Master of Education
Master of Urban Administration
Master of Business Administration
Master of Science
  Biology, Chemistry

GRADUATE STUDY

Shortly after UNCC emerged as the fourth campus of the University of North Carolina system, the University's trustees authorized the new institution to "provide graduate and undergraduate instruction and research opportunities in the basic natural sciences, the social sciences, the humanities, the fine arts and teacher education."

Two graduate degree programs designed primarily for teachers in the public school system were approved in 1969. They were a Master of Education degree and a Master of Arts in Education degree with majors in English, history and Mathematics.

A third graduate degree program was added in 1970 with the approval of the Master of Management degree program in the College of Business Administration. The name of this degree was changed to Master of Business Administration in the fall of 1976.

The Master of Arts in Geography and Master of Science in Biology and Chemistry were initiated in the fall of 1973. The Master of Arts in Mathematics and the program leading to the degree of Master of Urban Administration were approved in 1976. Additional graduate degrees will be added as approval and funding are granted.

All of the graduate offerings at UNCC are designed so that persons can pursue their degree programs while continuing full-time employment. Courses are held in the late afternoon and evening and carry with them full residence credit.

THE CATALOG

The catalog is not an irrevocable contract. Regulations printed herein are subject to change by the faculty at any time. University regulations are policy statements to guide students, faculty and administrative officers in achieving the goals of the institution. Necessary interpretations of these policies will be made by the appropriate authority with the interests of the students and the institution in mind. Students are encouraged to seek information as they require it about the application of any policy.

NONDISCRIMINATION

The University of North Carolina at Charlotte will accept all qualified students, within budgetary limitations, without regard to race, creed, color, sex or national origin and recruits faculty and staff and conducts all programs on the same basis.

HEALTH SERVICE

The University Health Service, housed in a building completed in 1971, is operated 24 hours a day, seven days a week. The new building has a capacity for 22 patients, with eight semi-private rooms and six private rooms. A physician is employed on a full-time basis. He has regular hours daily and is on call for emergencies. Registered nurses are on duty at all times.

The Health Service offers comprehensive care to all students with referral available when the services of a specialist are required.

CONTINUING EDUCATION

The University has a community-wide continuing education program that provides early morning, day, evening and weekend on-campus and off-campus offerings. Such programs may be non-credit but offering recertification credits for teachers. Conferences, institutes, short courses, workshops, seminars and regular evening or summer offerings are examples of continuing education programs. Many of these programs also offer graduate credit. Every effort is made to offer a wide variety of educational experiences or any course in the University curriculum at any suitable place and time for a sufficient number of interested students. The Office of Continuing Education is open from 8 a.m. to 5:30 p.m. Monday through Friday.

EVENING PROGRAM

The University offers a well-rounded evening program consistent with its daytime classes. A substantial majority of the courses approved for graduate credit are available in the evening. Students may request any course in the catalog, and if the director finds there is sufficient demand, the courses will be offered. Classes are held from 4 p.m. through 10:30 p.m. The Office of Evening Programs is open from 8:30 a.m. through 5:30 p.m., or by appointment after 5:30 p.m., Monday through Friday.

SUMMER SESSION

The Summer Session is designed to present courses of the same quality as those offered in the regular academic year. These courses—selected according to the needs of regular students, students transferring from other institutions and students from the community—are presented in two terms consisting of six weeks each and two short terms (see pages 9-11).

APPLICATION DATES

Due to the large number of applications the University is receiving and due to the rapid growth of this campus, the University may be required to announce an earlier cutoff date for applications. Unless such an announcement is made, applications may be submitted and completed according to the following schedule:

Term of Entry	*Application Must Be Filed By*	*Application Must Be Completed By*
First Summer Term, 1977	May 1	May 15
Second Summer Term, 1977	June 15	July 1
Fall Semester, 1977	July 1	July 15
Spring Semester, 1978	December 1	December 15
First Summer Term, 1978	May 1	May 15
Second Summer Term, 1978	June 15	July 1

The University may alter these application dates in accordance with available resources and the enrollment limitation established by the North Carolina General Assembly.

ACADEMIC CALENDAR
1977-78

First Summer Session

May 23	Mon..	Residence halls open
May 23	Mon.	Registration
May 25	Wed.	Classes begin
May 26	Thurs.	Last day to register or add a course
May 27	Fri.	Last day to withdraw from school or drop a course with refund
June 8	Wed.	Last day to drop a course without grade evaluation. Last day for Engineering students to drop a course.
June 10	Fri.	No classes
June 24	Fri.	Last day to drop a course
June 29	Wed.	Last day of classes
June 30-July 1	Thurs.-Fri.	Final examinations

Second Summer Session, 1977

July 5	Tues.	Registration
July 6	Wed.	First day of classes
July 8	Thurs.	Last day to register or add a course
July 9	Fri.	Last day to withdraw from school or drop a course with refund
July 20	Wed.	Last day to drop a course without grade evaluation. Last day for Engineering students to drop a course.
Aug. 5	Fri.	Last day to drop a course

Aug. 9	Tues.	Last day of classes
Aug. 10-11	Wed.-Thurs.	Final examinations

Short Session, 1977

June 15	Wed.	Registration
June 16	Thurs.	Last day to register. Classes begin
June 17	Fri.	Last day to withdraw from school or drop a course with refund
June 18	Sat.	Classes meet
June 20	Mon.	Last day to drop a course without grade evaluation
June 25	Sat.	Classes meet
June 29	Wed.	Last day to drop a course
July 1	Fri.	Last day of classes and/or final examinations

Eight-Week Summer Session, 1977

June 15	Wed.	Registration
June 16	Thurs.	Classes begin
June 17	Fri.	Last day to register or add a course
June 21	Tues.	Last day to withdraw from school or drop a course with refund
June 30	Thurs.	Last day to drop a course without grade evaluation
July 4	Mon.	No classes
Aug. 4	Thurs.	Last day to drop a course
Aug. 9	Tues.	Last day of classes
Aug. 10-11	Wed.-Thurs.	Final examinations

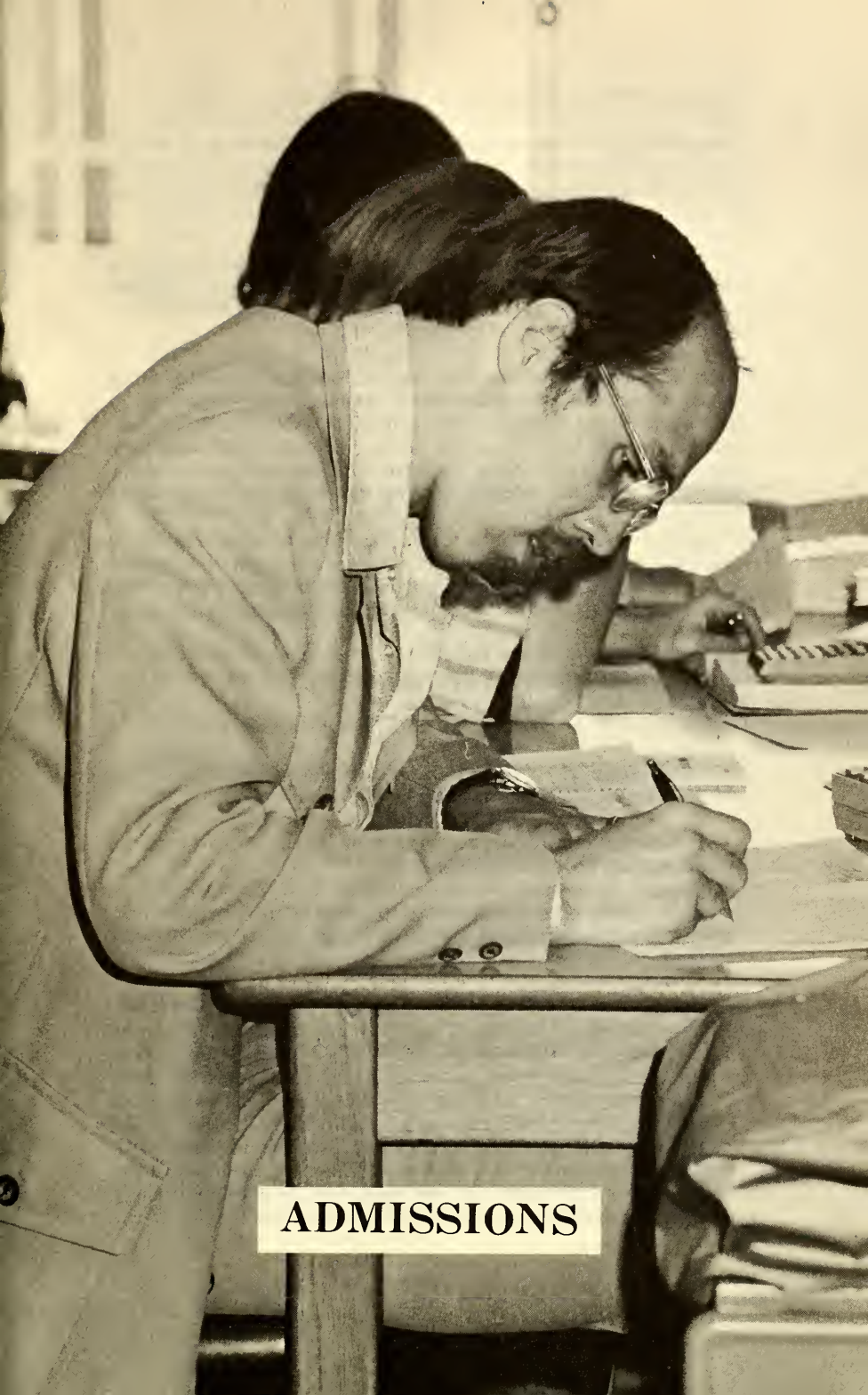
Fall Semester, 1977

Aug. 21	Sun.	Residence halls open for new students only and orientation begins
Aug. 22	Mon.	Faculty and Staff Convocation
Aug. 22-26	Mon.-Fri.	Advising and orientation
Aug. 24-26	Wed.-Fri.	Registration
Aug. 23	Tues.	Residence halls open for continuing students
Aug. 26	Fri.	Last day to register without a late penalty of $10
Aug. 29	Mon.	Classes begin
Sept. 2	Fri.	Last day to register or add a course for credit
Sept. 5	Mon.	Labor Day (No Classes)
Sept. 9	Fri.	Last day to withdraw (or drop a course) with refund
Oct. 10-11	Mon.-Tues.	No classes
Oct. 19	Wed.	Reports of unsatisfactory grades by faculty
Oct. 28	Fri.	Last day to drop a course without grade evaluation. Last day for Engineering students to drop a course.
Nov. 9-11	Mon.-Fri.	Advising for spring semester 1978
Nov. 23-25	Wed.-Fri.	Thanksgiving Holidays
Dec. 1	Thurs.	Last day to file for May degrees
Dec. 2	Fri.	Last day to drop a course
Dec. 9	Fri.	Last day of classes
Dec. 12	Mon.	Final examinations begin

Dec. 16	Fri.	Final examinations end

Spring Semester, 1978

Jan. 3	Tues.	Residence halls open
Jan. 4-6	Wed.-Fri.	Orientation, advising and registration
Jan. 6	Fri.	Last day to register without a late penalty of $10
Jan. 9	Mon.	Classes begin
Jan. 13	Fri.	Last day to register or add a course for credit
Jan. 20	Fri.	Last day to withdraw (or drop a course) with refund
Feb. 13-14	Mon.-Tues.	No classes
Feb. 24	Fri.	Report of unsatisfactory grades by faculty
March 8	Wed.	Last day to drop a course without grade evaluation. Last day for Engineering students to drop a course.
March 20-24	Mon.-Fri.	Spring holidays
April 3-7	Mon.-Fri.	Pre-registration for first summer session and advising for fall semester 1978
April 18	Tues.	Last day to drop a course
April 25	Tues.	Last day of classes
April 26	Wed.	Reading day
April 27	Thurs.	Final examinations begin
May 3	Wed.	Final examinations end
May 6	Sat.	Commencement exercises



ADMISSIONS

ELIGIBILITY TO REGISTER

Registration in courses offered at the University of North Carolina at Charlotte is limited to those students who have been properly admitted on the basis of an application filed on or before the appropriate application deadline.

Persons seeking application forms and information about graduate study should address inquiries to the Director of Graduate Studies, University of North Carolina at Charlotte, UNCC Station, Charlotte, North Carolina 28223.

Applications may be made for the regular semesters beginning in August and January and for the summer terms beginning in June and July. Applications for any term should be fully completed by announced deadlines and in no case later than one month before the opening of the term, to allow sufficient time for acquisition and processing of information required for admission.

The University considers all applications without regard to race, color or sex. The University reserves the right to withhold the admission of any applicant who fails to meet the general requirements for admission or the specific requirements listed for graduates.

GENERAL REQUIREMENTS FOR ADMISSION TO GRADUATE STUDY AT THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

A. Application in writing to the Director of Graduate Studies, University of North Carolina at Charlotte.

B. Possession of a bachelor's degree, or its equivalent, from an accredited college or university.

C. Submission of two official transcripts of all previous academic work attempted beyond the high school sent directly from each institution attended.

D. Submission of scores on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test (for all programs except the Master of Business Administration, the Master of Arts in Geography and Mathematics); three recommendations, an essay describing previous experience and objective in undertaking graduate study. Scores on the Graduate Management Admission Test are required with the application for the Master of Business Administration program. Applicants for the Master of Science in Biology may be admitted on the basis of the Aptitude Portion of the

Graduate Record Examination, but will be required to take the Advanced Graduate Record Examination in field during the first semester in residence. Applicants for the Master of Arts in Geography and Master of Arts in Education in Mathematics must also furnish scores on the Doppelt Test of Mathematical Reasoning if the Miller Analogies Test is offered in lieu of the Aptitude Portion of the Graduate Record Examination. Admission to the Master of Arts in Mathematics requires the submission of scores on the Aptitude Portion of the Graduate Record Examination.

E. In general, an overall quality point average of 2.50 (based on the four-point system) on all the applicant's previous work beyond the high school. The average of the major or basic courses prerequisite to the area of proposed graduate study should be 3.0 or better.

F. At least three letters of recommendation from persons familiar with the applicant's personal and professional qualifications.

G. An essay describing applicant's experience and objective in undertaking graduate study.

H. Such other evidence of achievement as may be required by the colleges or departments of major interest.

I. Evidence of good health.

J. Students who meet the foregoing requirements but do not wish to enroll in a specific degree program may be admitted to full standing as unclassified students.

K. Certain other applicants who satisfy prerequisites for specific courses may be admitted to those courses as non-degree students though they may not meet all the foregoing requirements. Students admitted as non-degree students who later wish to qualify for full standing must reapply for the new classification.

ADDITIONAL ADMISSIONS REQUIREMENTS FOR FOREIGN APPLICANTS

A. Submission of Scores on the Test of English as a Foreign Language.

B. A statement of the applicant's financial resources during his/her stay in the United States.

All applicants submitting transcripts from non-U.S. educational institutions should note that some bachelor's degrees given by non-U.S. schools are not equivalent to the American bachelor's degree. Recipients of these degrees are not eligible for graduate study at the University of North Carolina at Charlotte.

GENERAL CLASSIFICATION

Admission to one of these categories does not imply and should not be confused with later admission to candidacy for a graduate degree.

Full Standing

Applicants who meet the general requirements for admission to graduate study plus any specific requirements imposed by the college or department of academic concentration for the degree sought will be admitted to full standing.

Conditional Standing

Conditional admission to full standing may be granted to students who have:

a. general or special deficiencies which require remedial work;

b. degrees awarded as long as six years prior to admission; or

c. a less clearly predicted chance of success according to available criteria.

Each student granted admission conditionally will be evaluated by an advisory committee at the end of the first term in which the cumulative graduate credit attempted at the University of North Carolina at Charlotte equals or exceeds 12 semester hours.

Admission of Unclassified Students

Any student seeking admission to take a significant number of courses and who does not intend to seek a Master's degree should file a completed regular application form, together with all supporting data, in the Graduate Office prior to the application date for the term in which he wishes to enroll.

Non-Degree Status

Certain students who wish to take courses for certificate renewal, for transfer to another institution or for personal satisfaction may be admitted as Non-Degree students. This admission is for *one term only.*

A non-degree student who is subsequently admitted to full or conditional standing on the basis of an approved regular application may, with the permission of his adviser, apply a maximum of two courses acceptably completed in non-degree status toward a graduate degree at the University.

Interrupted Enrollment

Any student eligible to continue whose course of study is interrupted for one or more academic terms must apply for readmission. He should do so on a form furnished by the Graduate Office at least six weeks prior to the desired term of re-entry.

NON-MATRICULATION

An admitted applicant who fails to enroll for the term to which admitted is presumed to have withdrawn his application. The application may be reinstated by written request to the director of graduate studies at least six weeks prior to the term in which the applicant desires to register.

CRITERIA FOR CONTINUED ENROLLMENT

A student in any graduate program is required to maintain satisfactory progress toward his degree. Continued enrollment is at all times subject to review on the basis of academic record and of actions with regard to observance of University rules and regulations.

Students admitted to *full standing* will normally be permitted to re-enroll in successive terms, subject to satisfactory performance on course work and to load limitations imposed by their employers and the University. However, they must complete formal registration within the designated registration period. A student admitted conditionally to full standing will be permitted to continue, subject to satisfactory academic performance, until he has attempted 12 semester hours of graduate course work, at which time admission status will be reviewed by the major department and he will be advised as to his eligibilty to continue.

Students admitted to *non-degree* status are admitted for one semester only and should fulfill requirements for admission to full standing by the application date for the following term if they wish to take additional course work.

READMISSION

Students in good standing or students who are accepted into a program but do not enroll in the semester for which they are admitted or whose enrollment is interrupted for one or more academic terms should apply for readmission at least six weeks prior to the beginning of the term in which they plan to re-enroll, on a form furnished by the Graduate Office. Such applications will normally be granted without question.

Students whose enrollment is terminated for academic reasons may request readmission under the following procedures: The student will be notified of the termination of his enrollment in the graduate program by the director of graduate studies. The student will be expected to initiate the reapplication procedure by applying for readmission through his major department. Such application must be accompanied by a $10 application fee, which is not refundable. The department will designate a Readmission Committee to consider the student's appeal for readmission. The committee will be composed of faculty members other than the faculty member(s) who assigned the grades of *C* or *U*. The Readmission Committee shall recommend to the director of graduate studies that the student either be reinstated or dropped from the program. The Readmission Committee will decide each case on its individual merits.

ADMISSION OF TRANSIENT STUDENTS

Students enrolled at other colleges and universities who have the written permission from their institutions to take specified courses at the University in a given semester or summer term may be enrolled as transient non-degree students.

ADMISSION OF AUDITORS

Any student eligible for admission may register for any class for audit. The application procedure and fees are the same as for classes taken for University credit.

The participation of auditors in class discussion and in tests or examinations is optional with the instructor. Auditors receive no University credit. They are, however, expected to attend class

regularly. Notation of an audited class on the student's permanent record is made, but no grades will be given.

Adding or dropping an audit course is governed by the same procedures as adding or dropping a course for credit.

DEGREES OFFERED

The University of North Carolina at Charlotte offers the following graduate degrees:

Master of Arts (M.A.)
College of Social and Behavioral Sciences
Geography
College of Science and Mathematics
Mathematics

Master of Arts in Education (M.A.Ed.)
College of Humanities
English
History
College of Science and Mathematics
Mathematics

Master of Education (M.Ed.)
College of Human Development and Learning

Master of Management (M.M.)
College of Business Administration

Master of Science (M.S.)
College of Science and Mathematics
Biology
Chemistry

Master of Urban Administration
College of Social and Behavioral Sciences
Political Science

MASTER OF ARTS IN GEOGRAPHY

The M.A. in Geography is designed to prepare individuals to apply the concepts and analytical methods of modern geography to understanding our complex and rapidly changing world. Graduates of the program will be prepared to work as professionals in areas such as urban and regional planning, locational analysis, teaching, marketing research, cartography and environmental problems.

A. Admission

The M.A. in Geography is open to all who can fulfill the general requirements for admission to graduate study at the University of North Carolina at Charlotte, as stated in the *Graduate Catalog*. In addition, the following criteria are applied by the Departmental Graduate Advisory Committee in reviewing applications:

(1) an overall quality point average of 2.8 (4.0 system) on the last 60 semester hours (90 quarter hours) attempted;

(2) a quality point average of 3.0 in the undergraduate major, whatever it may be;

(3) a satisfactory total score on the aptitude portion of the Graduate Record examination or satisfactory scores on both the Miller's Analogy Test and the Doppelt Test of Mathematical Reasoning.

(4) applicants whose native language is other than English must offer acceptable scores on the Test of English as a Foreign Language.

In the absence of extenuating circumstances, failure to meet these criteria will result in rejection of an application.

An undergraduate major in geography is not required. In order to insure competence in the basic concepts and methodologies of geography, however, the department expects each incoming student to either possess or establish a proficiency with the materials offered in the five courses required for the undergraduate geography major: ES 101 (Earth Science-Geography); GGY 102 (World Regional Geography); GGY 105 (Human Location); GGY 202 (Cartography); and GGY 203 (Research Methods). Deficiencies may be removed after admission by either taking the appropriate course or through examination.

Students may enter during any semester, but applications for full admission normally must be completed by the published deadline. All applications for admission that satisfy general University admission requirements will be reviewed by a Departmental Graduate Advisory Committee for a final decision. Upon admission each student will be assigned to an advisor who will work with the student in designing a program of study. All potential applicants are encouraged to visit the department for an interview.

B. Course Requirements

The M.A. in Geography requires a minimum of 36 semester hours of graduate credits. GGY 600, 615-616 and 690-691 will be required of all students. Up to 12 hours may be taken in related work.

Required Courses

GGY 600	6 semester hours

GGY 615	3 semester hours
GGY 616	3 semester hours
GGY 690-691	6 semester hours

Elective Courses

Other 600-level courses in geography and earth sciences	6 (minimum)
Other courses in geography and/or related subjects	12 (maximum)
Total	36 semester hours

C. *Internships*

Most students will work as interns in a public or private agency. This work will take place toward the end of a student's program. The departmental internship director will assist students and faculty advisors in placing the student in an internship position that best relates to the interests of the student. The purpose of the internship is to expose the student to the problems and activities of the community and for the student to have the opportunity to apply geographic theory, technique and knowledge to real life practices. The student intern will work on a specific project under the supervision of both the sponsor and a faculty advisor. The results of the internship project will form the basis for the Individual Research Project report. The internship is not required and will be arranged only when it is possible to find a sponsoring company or agency that is willing to support research in the area of the student's interest. If a suitable internship cannot be arranged, the student will be expected to execute an independent research project at the level of a thesis in order to satisfy the 690-691 course requirement.

D. Transfer Credit

Six semester hours of coursework may be accepted for transfer from other accredited institutions. Course credit may be earned by examination as well. Transfer credits will not be accepted automatically. In any case, transfer credits, related work or credits earned through examination may not together exceed a total of 12 of the minimum 36 hours required.

E. Continued Enrollment

The progress of each student will be reviewed every semester by the departmental Graduate Advisory Committee and by the student's advisor. Continued enrollment will require a favorable recommendation by the Committee and the advisor. Prompt

removal of any entrance deficiencies will be a major criterion for continued enrollment.

F. Time Limits

All work offered for the M.A. degree must be completed within a five-year period.

G. Final Examination

Each student must pass a comprehensive examination over both the discipline generally and in defense of the individual research report, as appropriate. The examination may be both written and oral.

H. Admission to Candidacy and Application for Degree

General academic regulations apply for admission to candidacy for the degree and the application for degree.

MASTER OF ARTS IN MATHEMATICS

The Master of Arts in Mathematics is designed to provide advanced skills and knowledge for those seeking positions in industry or in government, or teaching positions at the junior college or community college level, and to provide professional development to those currently in such positions. Graduates of the program will also be well trained to enter directly into at least the second year of a Ph.D. program in mathematics at other institutions.

A. Admission

For admission into the program leading to the Master of Arts in Mathematics an applicant must fulfill the general requirements for admission to graduate study at the University of North Carolina at Charlotte. In addition, he must present evidence of the satisfactory completion of at least 27 semester hours of mathematics, approved by the Departmental Graduate Committee and submit satisfactory scores on the Aptitude Portion of the Graduate Record Examination. It is recommended that the student have a basic knowledge of at least two of the areas of algebra, real analysis, and topology.

B. Degree Requirements

The Master of Arts in Mathematics requires successful completion of a minimum of 30 semester hours of graduate work ap-

proved by the department. At least 15 hours applied to the degree must be in mathematics courses above the 700 level; at least one of these courses must be in real or complex analysis and at least one selected from the areas of linear algebra, modern algebra or topology. The candidate must demonstrate competence on general matematical knowledge in at least three of the following areas: algebra, applied mathematics, real analysis, and topology. This may be accomplished by means of either a) successful performance on a written comprehensive examination, or b) successful completion of courses in these areas. In addition, all candidates must perform satisfactorily on an oral comprehensive examination over the candidate's program of graduate study.

Completion of a satisfactory thesis is optional. With the approval of the Departmental Graduate Committee, a candidate may receive at most six of the 15 hours required above the 700 level for the writing of a master's thesis. Subject to the approval by the Departmental Graduate Committee, this thesis may be either original work, work of an expository nature, or the mathematical formulation and solution of a particular industrial or business problem suggested by the career interests of the student. If the thesis option is elected, the candidate will be required to defend his thesis in an oral examination.

C. Program Approval

Approval of the program of each student and the monitoring of his progress toward the degree will be the function of the Departmental Graduate Committee. The student should refer to the "Academic Regulations" in the present catalog for a description of his own responsibilities.

D. Continued Enrollment

A student in the M.A. in Mathematics program is required to maintain satisfactory progress towards the degree. Continued enrollment is at all times subject to review on the basis of his academic record; this review to be performed by the Departmental Graduate Committee.
Commendable *(A)* or satisfactory *(B)* grades are expected of all students in the program. An accumulation of three marginal *(C)* grades or one unsatisfactory *(U)* grade result in the termination of the student's enrollment in the program. In order to continue his program of study the student is required to apply for readmission into the program. If the decision on the re-

application is positive the student is expected to complete his program with satisfactory or commendable performance in all remaining work. Another marginal grade *(C)* or unsatisfactory grade *(U)* will result in permanent termination of his enrollment in the program.

E. Residence Requirements

The general University of North Carolina requirements for residence apply. See definition of "Residence Credits" under "Academic Regulations."

F. Transfer Credit and Credit by Examination

With the approval of the Departmental Graduate Committee, a candidate may receive transfer credit or credit by examination in accordance with the policies set forth in the section on "Academic Regulations."

G. Admission to Candidacy

General academic regulations apply for admission to candidacy.

MASTER OF ARTS IN EDUCATION

The Master of Arts in Education degree program is designed primarily for secondary school teachers interested in professional growth and graduate certification in a selected teaching field. This program of studies is coordinated as an inter-disciplinary program between the college and department of the major teaching field and the College of Human Development and Learning. Emphasis in this program is given to developing depth and breadth in a major teaching field in relation to the professional growth and role of the teacher. The requirements of the program of studies include a major of 18 semester hours of graduate credit in the selected teaching field, six semester hours of graduate credit in Human Development and Learning and six semester hours of electives in the teaching field, Human Development and Learning or a third department. It is strongly recommended that candidates completing only six semester hours of credit in Human Development and Learning select HDL 600 and HDL 620.

For this degree program, the adviser shall be assigned from the department of the major. An adviser from the College of Human Development and Learning may also be assigned.

Special Admission Requirements

For admission to a degree program leading to the Master of Arts in Education, each applicant must show evidence of demonstrated or potential capacity to profit from graduate study in his chosen academic area and in professional education. He must fulfill the following general requirements and all special departmental requirements as listed below:

1. Approved undergraduate work in the area of academic interest.

2. Evidence of satisfactory scope and quality point average in undergraduate courses in professional education.

3. Possession of a North Carolina Class "A" teacher's certificate or the equivalent. An applicant may be admitted on the condition that he satisfy the Class "A" requirements early in his course of study. Work applied to correct the Class "A" deficiency may not be applied toward the M.A.Ed. degree.

4. Up to six hours graduate credit may be accepted for transfer from another accredited institution.

5. The submission of an essay on the student's professional goals and interests, together with the formal application.

6. Satisfactory scores on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test.

Special requirements as follows will apply to students who wish an area of academic concentration in the field indicated:

English

1. Thirty hours of undergraduate course work in English beyond the freshman level approved by the Department of English.

2. A satisfactory score on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test.

History

1. Twenty-four hours of undergraduate work in history or in courses appropriate to graduate work in history.

2. A satisfactory score on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test.

Mathematics

1. Eighteen hours of approved undergraduate work in mathematics.

2. Satisfactory scores on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test and the Doppelt Mathematical Reasoning Test.

Requirements for the Degree

Course Requirements

After the admission to graduate study at the University of North Carolina at Charlotte, the candidate must successfully complete a minimum of 30 semester hours of work in courses approved for graduate credit. Of these, at least 15 hours must be taken from courses open to graduate students only. Courses will be distributed as follows:

1. *Content Area* .....18 semester hours

   a) English: successful completion of English 331, History of the English Language; English 461, Modern English Grammar; English 465, Social Dialects; English 661, Introduction to Linguistics; or English 662, Advanced Rhetoric, and 15 additional hours approved by the department and the student's adviser. At least nine hours must be in courses open to graduate students only. Except for clearly exceptional cases, M.A.Ed. candidates in English may take no more than two directed reading courses (English 690) to fulfill degree requirements.

   b) History: successful completion of at least six three-hour graduate courses or the equivalent. These must include the course in historiography and methodology (HIS 693) and at least six additional hours in courses open only to graduate students. M.A.Ed. candidates in history may take no more than two independent study courses to fulfill degree requirements. These courses include HIS 601, 602, 694 and 697.

   c) Mathematics: successful completion of six three-hour graduate courses or the equivalent. At least three of these must be in courses open only to graduate students.

2. *Professional Education* .....6 semester hours

   Successful completion of at least two three-hour graduate courses or the equivalent as approved by the College of

Human Development and Learning. HDL 600 and HDL 620 are recommended.

3. *Electives* .....6 semester hours

Successful completion of at least two three-hour graduate courses or the equivalent. One or both of these may be in areas of major interest, in professional education or a related area approved by the student's adviser.

Thirty semester hours of graduate credit or the equivalent are the minimum required for the degree and for graduate certification. Programs of study beyond the 30 semester hours of graduate credit may be required to remove deficiencies in undergraduate programs, to develop areas of need, interests or needed experience. The student's adviser may recommend additional credits beyond the 30 semester hours required, or equivalent experiences may be designed.

Approval of Individual Program

Approval of the program of each student and advice regarding his progress toward the degree will be the responsibility of an adviser appointed at the time of his admission from the department of academic concentration.

Examination

Each student must pass a comprehensive examination (including an oral examination) on overall work presented for the degree. No M.A.Ed. candidate in English is to take the M.A.Ed. comprehensive examinations until three weeks after all non-HDL courses are completed.

MASTER OF EDUCATION

The Master of Education degree is designed, both from the point of view of sound graduate professional study and professional certification, around a body of knowledge and experiences common to several types of professional needs and interests. Graduate courses, seminars and clinical experiences comprising the major may be conceptualized as an evolving continuous spiral, giving emphasis to the four phases: I. Explorations in Human Potential; II. Meaning and Growth in Teaching/Learning Relationships; III. The Helping Relationships; and IV. Experience and Commitment in Human Learning and Development.

Each program of study requires involvement in the development of understandings and competencies in each of the phases. A concentration of studies in one phase is designed to develop areas of major interests, needs and certification. The program of studies should proceed from Phase I through Phase IV. Therefore, the student should begin a program of studies by enrolling in HDL 600-A B, or C, Phase I.

Special Admission Requirements

Students desiring to enroll in the Master of Education program must meet the following special requirements:

1. Evidence of satisfactory scope and quality point average in courses in professional education and a satisfactory scope and quality point average in courses appropriate to the academic concentration.

2. Possession of a North Carolina Class "A" teacher's certificate or the equivalent. An applicant may be admitted on the condition that he satisfy the Class "A" requirements. Work applied to correct the Class "A" deficiency may not be applied toward the M.Ed. degree.

3. At least 12 hours of approved course work in the area(s) of academic concentration.

4. Up to six hours graduate credit may be accepted for transfer from another accredited institution.

5. The submission of an essay on the student's professional goals and interests together with the formal application.

6. Satisfactory scores on the Aptitude Portion of the Graduate Record Examination or the Miller Analogies Test.

Requirements for the Degree

The candidate for the degree of Master of Education must successfully complete a minimum of 30 semester hours of work in courses approved for graduate credit. Of these, at least 15 must be in courses which are open to graduate students only.

1. *Human Development and Learning* .....12 semester hours

   Satisfactory completion of at least four three-hour courses or the equivalent.

2. *Related Areas* ..... 12 semester hours

Satisfactory completion of at least four three-hour courses, or the equivalent in appropriate academic areas.

3. *Electives* ..... 6 semester hours

Satisfactory completion of graduate-level electives to a total of at least two three-hour courses or the equivalent. These may be chosen from Human Development and Learning, either or both areas of related interest or an additional related area approved by the student's adviser.

Thirty semester hours of graduate credit or the equivalent are. the minimum required for the degree and for graduate certification. Programs of study beyond the 30 semester hours of graduate credit may be required to remove deficiencies in undergraduate programs, to develop areas of need, interests or needed experience. The student's adviser may recommend additional credits beyond the 30 semester hours required or equivalent experiences may be designed.

Curricula

The major for the Master of Education degree is Human Development and Learning. However, within the framework of its requirements, the North Carolina Department of Public Instruction has approved programs leading to graduate teaching certification in Early Childhood and Intermediate Education. Also approved are special service certificate programs in Counseling, School Administration and Supervision and, within the area of Curriculum and Instruction, secondary subject fields and special concentrations. At present, these certifications are limited to the master's degree, or fifth year level.

Approval of Individual Program

Approval of the program of each student and advice regarding his progress toward the degree will be the responsibility of an adviser appointed at the time of his admission from the College of Human Development and Learning.

Comprehensive Examination

A comprehensive examination of the candidate's program of studies is required. This examination will be designed to evaluate the candidate's ability to integrate the various components of his graduate program including courses, independent study and

clinical experiences. The purpose of the examination is to provide the opportunity for the candidate to demonstrate his knowledge as related to his professional goal; to demonstrate his ability to analyze an educational problem including diagnosis, synthesis and the ability to bring data and experience to bear upon the solution.

The examination will typically include a written and oral phase. The written phase may call for a written review of all course work taken prior to the examination or it may require the presentation of a project developed and executed during the last 18 hours of the individual's graduate program. The candidate should consult his adviser near the end of the first 12 hours of work about the planning of such project. Date for the oral examination will be arranged with the Office of Graduate Studies. As a general policy, the final comprehensive examination for the Master of Education degree must be satisfactorily completed not later than the last day of classes of the term in which the student expects to graduate. Persons seeking Graduate certification are reminded that all requirements for the degree must be completed on or before the last day of the second summer session.

MASTER OF BUSINESS ADMINISTRATION

Admission

Admission to the Master of Business Administration program is open to qualified graduates of recognized colleges or universities accredited by a regional or general accrediting agency.

There are four major requirements for admission:

1. A generally satisfactory undergraduate record.
2. An acceptable score on the Graduate Management Admissions Test administered by the Educational Testing Service of Princeton, New Jersey.
3. A description of any significant work experience.
4. Three supporting letters of recommendation from professors or employers.

Applications should be completed at least three months prior to the semester in which the applicant expects to enroll.

Program Philosophy

The primary objective of graduate study in business is to develop candidates for leadership positions in complex organiza-

tions of the future. The basic philosophy of the graduate program recognizes that managerial procedures and practices of today are subject to rapid change. For this reason, the program emphasizes a process of perceiving, analyzing and solving administrative problems. The burden is placed on the student to determine relevant facts, evaluate alternatives and prepare for action. Organizations are analyzed as behavioral, financial and technological units operating in an environment with changing regional, national and international dimensions. Candidates are encouraged to anticipate, innovate and adjust in this dynamic environment.

The curriculum stresses the universal characteristics of management and their application in various types of organizations. Fundamental problems are examined from an economic, information systems and behavioral point of view.

Courses in economic analysis and managerial accounting focus on financial performance and resource allocation, while those in administrative practices emphasize individual and group conduct. Courses in information analysis make possible the integration of the economic and behavioral aspects of administrative problems with the decision-making requirements of practicing managers. These areas constitute the core courses in basic analysis required of all candidates.

After completing the basic analysis sequence, a student selects three additional courses from among the graduate courses offered by the College of Business Administration. This provides an opportunity for students to choose courses of particular interest to them.

The final course in the program is management strategy. This course is designed to integrate the concepts and methods of analysis developed throughout a candidate's program of study.

Students are required to solve administrative problems that illustrate the integrative aspects of an executive's role. Finally, a candidate must demonstrate his ability to synthesize his knowledge in a comprehensive examination.

The methods of instruction adopted in the program are designed to prepare a candidate for the realities of a management career. These methods include simulations, role playing, written communications, lectures and the case study method. It is the ability to analyze, to judge trends, to weigh diverse influences that lead to sound judgment. This capability can be developed only through practice. The methods of instruction employed in the program are designed to provide such practice.

Courses in the program are scheduled to accommodate part-time and full-time students. Classes are held in the evening throughout the year. Part-time students may enroll in two courses during the fall and spring semesters. A part-time student may complete the program in three years. Full-time students may enroll in four courses during the fall and spring semesters and may complete the program in two years. To avoid scheduling problems, students are encouraged to begin the program in the fall semester.

Program Design

A. Preparation

Candidates for the Master of Business Administration must present evidence of preparation in accounting, mathematics and statistics, economics and computer science before beginning the graduate course work.

B. Basic Analysis

All candidates are required to take the following basic analysis courses:

Mgt. 611	Economic Analysis I
Mgt. 612	Economic Analysis II
Mgt. 621	Information Systems I
Mgt. 631	Managerial Accounting
Mgt. 641	Production Management
Mgt. 642	Financial Management
Mgt. 661	Administrative Practices I
Mgt. 671	Marketing and Logistics

C. Elective Courses

After completing the basic analysis sequence, candidates must select three additional courses from among the following courses:

Mgt. 561	Financial Markets
Mgt. 622	Information Systems II
Mgt. 653	Investment Management
Mgt. 662	Administrative Practice II
Mgt. 672	Marketing Research and Forecasting
Mgt. 673	Marketing Communication and Promotion
Mgt. 690	Directed Individual Study
Mgt. 692	Management Ethics

D. Synthesis

The final course required of all candidates is:

Mgt. 694 Management Strategy

E. Comprehensive Examination

All candidates are required to demonstrate the ability to integrate their knowledge in a comprehensive examination administered at the end of the program.

MASTER OF SCIENCE IN BIOLOGY

The Master of Science in Biology is designed to provide broad training in the areas of development, ecology, physiology and genetics. This breadth of training should meet the needs of students preparing to teach biology at the community college or secondary school level. The program, however, encourages specialization in the form of mandatory thesis research and course participation in specialty or related areas such as biochemistry. Specialization may provide a basis for more advanced studies or enable the student to choose, in addition to teaching, technical and/or health-related areas of vocation. Graduates of this program are expected to have both breadth of knowledge in the major biological areas and depth of knowledge and technical experience in a selected field of specialization.

A. Admission

For admission into the program leading to the Master of Science in Biology an applicant must fulfill the general requirements for admission to graduate study at the University of North Carolina at Charlotte. In addition he must present evidence of the following:

1) Undergraduate preparation in biology substantially equivalent to that required for an undergraduate major in biology at the University.

2) Reading knowledge of a modern foreign language. A student without such competence must successfully demonstrate it prior to admission to candidacy.

3) Promise of being able to complete successfully the degree program as outlined below.

4) Although not required prior to admission or initial enrollment, each applicant must present satisfactory scores on the Advanced Graduate Record Examination in Biology before the end of his first semester in residence.

B. Degree Requirements

The Master of Science in Biology requires successful completion of a minimum of 32 semester hours of course work approved by the department. Of these, at least 16 semester hours must be in courses open to graduate students only. Of the total, no more than eight hours may be credited for research. All courses offered for the degree must carry grades of "Satisfactory" or "Commendable" as defined in the current *Graduate Catalog.*

In addition to his course work, each candidate for a degree must prepare and present a thesis acceptable to his supervisory committee and the director of Graduate Studies at least three weeks before the date of his or her final oral examination.

The candidate must also successfully complete a final oral examination which will include a defense of the thesis.

C. Program Approval

The approval of each student's individual program and the monitoring of his progress toward the degree will be the function of a supervisory committee appointed at the time of his admission. The student should refer to the "Academic Regulations" in the present *Catalog* for a definition of his or her responsibilities.

D. Continued Enrollment

A student in the M.S. in Biology program is required to maintain satisfactory progress towards the degree. Continued enrollment is at all times subject to review by the supervisory committee and the Office of Graduate Studies.

E. Residence Requirements

A total of at least 26 semester hours of work offered for the degree must be taken in residence as defined in current academic regulations. At the discretion of the student's supervisory committee up to six hours of transfer credit may be accepted subject to the usual limitations.

F. Admission to Candidacy

General academic regulations will apply to application for admission to candidacy. In addition to these the applicant should:

1) Have removed any identified entrance deficiencies by the time of application.

2) Have, at the discretion of the department, successfully completed one or more qualifying examinations.

MASTER OF SCIENCE IN CHEMISTRY

The program leading towards the degree of Master of Science in Chemistry is a research-based program, requiring courses of a broad, general nature. Major emphasis is placed upon the research project and required thesis.

A. Admission

All applicants must fulfill the general requirements for admission to graduate study at UNCC. Students judged by the department to be deficient in their training will be admitted conditionally. As an aid in identifying such deficiencies, placement examinations will be given by the department each semester just prior to registration. Any deficiencies will be removed within one year by remedial study as directed by the department.

B. Degree Requirements

The candidate for the degree must present a minimum of 30 semester hours including a) at least 15 semester hours of courses open only to graduate students b) two semester hours of graduate seminar, c) at least one but up to 16 semester hours of research and thesis credit. The remaining credit can be obtained from courses approved for graduate credit. Six semester hours must be taken in mathematics, physics, or a field of chemistry other than the field of concentration. Required courses include 411, 421, 431, 645, 646, 680 and 690. Well prepared students, particularly those with ACS approved degrees, will normally achieve 411, 421, and 431 by preliminary examinations after admission. The 411, 421, and 431 hours may be replaced by research hours (690) or elective courses. In addition, the following specific requirements must be fulfilled.

(1) A quality point average of 3.0 (A = 4.0)

(2) Satisfactory performance on a reading examination in the chemical literature in Russian, German or French. This requirement will be waived with the presentation of passing grades for the first two college years (four semesters or their equivalent) of one of the three acceptable languages. As an alternative to the language requirement, the student may offer proficiency in computer language. Decisions as to the acceptability of the level of computer proficiency will be made by the Chemistry Department.

(3) Acceptance of the thesis within five calendar years after admission into the M.S. program as a degree student. This includes a successful defense of the written thesis before a special thesis committee established by the Chemistry Department. The thesis committee shall consist of no fewer than four persons, at least one of whom must be from a department other than Chemistry.

C. Program Approval

Approval of the program of each student and monitoring of his progress toward the degree will be the function of a student's advisory committee. The committee shall be composed of the student's research adviser and one other member of the department of the research adviser's choice. Prior to selection of a research adviser, graduate students' progress will be monitored by a departmental committee representing several chemical subdisciplines. The student should refer to "Academic Regulations" for a discussion of his responsibilities.

D. Continued Enrollment

A student in the chemistry M.S. program is required to maintain satisfactory progress toward the degree. His continued enrollment is at all times subject to review on the basis of his academic record, this review to be performed by the student's advisory committees.

E. Residence Requirements

A total of at least 24 hours of graduate work must be taken in residence as defined in the "Academic Regulations" section of this catalog. No more than six hours may be accepted for transfer from other accredited institutions. Decisions as to the acceptability of transfer work will be made by the Chemistry Department. The student's research must be conducted on campus.

F. Admission to Candidacy

General academic regulations apply for admission to candidacy for the degree, continued enrollment and transfer credit.

MASTER OF URBAN ADMINISTRATION

The primary objective of the Master of Urban Administration degree program is to provide a curriculum which offers professional training in public administration with a special emphasis on the management of local government systems. The curriculum emphasizes the analysis of the urban environment as well as the administrative decision-making approaches of urban administration.

A. Admission

Admission to the Master of Urban Administration program is open to qualified graduates of recognized colleges or universities accredited by a regional or general accrediting agency. There are six major requirements for admission: (1) Possession of a bachelor's degree, or its equivalent, from an accredited college or university; (2) An acceptable undergraduate record with an overall minimum Q.P.A. of 2.5; (3) An acceptable score on the Graduate Record Examination or the Miller Analogies Test; (The GRE and Miller tests can be taken on the UNCC campus through the UNCC Counseling Center—597-2104); (4) A statement of professional career goals and a description of any significant work experience; (5) Three supporting letters or recommendation from professors or employers; (6) Submission of two official transcripts from all post high school institutions in which the candidate was enrolled.

B. Program Design

The Master of Urban Administration program is structured into three distinct phases: (1) Core; (2) Functional Specialization; and (3) Directed Study. In all, the program requires 36 hours of graduate credit for completion of the degree.

Core: All students are required to complete courses in each of the three core areas: (a) Survey of the Urban Environment; (b) Theory and Practice of Urban Administration; and (c) Administrative Analysis. The emphasis in the core area phase is twofold: achieving an overall perspective on the problems of urban administration *and* comprehending the various managerial

and analytical approaches salient to the local governmental environment. After completion of the core requirements, each student must take a comprehensive examination before entering the next stage.

Functional Specialization: The focus of this phase is on mastering one of four areas of functional specialization: Public Management; Community Relations; Policy Analysis; or Planning in Urban Administration. The selection of the field of specialization is determined by the career needs of individual students.

Directed Study: Each Master's degree candidate is expected to complete a project on a topic of significance based on a field experience in urban administration. This requirement can be satisfied by individual experience gained through professional involvement in public administration or experience obtained through an approved internship with a governmental unit. This phase of the program is completed with a comprehensive exam.

C. Program Instruction and Scheduling

The methods of instruction employed in the program are designed to expose a candidate to a variety of approaches to urban management. These methods include simulations, role playing, problem analysis, lectures and case studies. The ability to analyze complex managerial problems can be developed only by combining theoretical principles and practical administrative experience. The instructional program is designed to expose the student to both principles and experience.

Students may enroll in the Master of Urban Administration program on either a full-time or part-time basis. Classes are scheduled in the evening throughout the year. A maximum course load for a full-time graduate student is nine semester hours.

ACADEMIC REGULATIONS

STUDENT RESPONSIBILITY

Every student is responsible for the proper completion of his academic program, for familiarity with the University Catalog, for maintaining the grade average required and for meeting all other degree requirements, including attendance at the commencement exercises at which he will receive his diploma. His adviser will counsel him, but the final responsibility remains that of the student.

A student is required to have knowledge of and observe all regulations pertaining to campus life and student deportment. He is responsible for maintaining communication with the University, by keeping on file with the Graduate Office at all times his current address, including zip code and telephone number.

Every student, while he is associated with the University, is expected to comport himself in campus and community life in a manner that will reflect credit upon himself and the University.

GRADING—GRADUATE

The unit of measurement of University work is the semester hour. It ordinarily represents one lecture hour per week for one semester; however, a sequence of two or three laboratory hours is considered to be the equivalent of one lecture hour.

Letters are used to indicate the quality of work done. The significance of letter grades as applied to graduate courses is as follows:

A — Commendable
B — Satisfactory
C — Marginal
**U* — Unsatisfactory
I — Incomplete
***W* — Withdrew

Grades of A or B

A student enrolled in any graduate program should maintain satisfactory progress toward his degree. He is expected to achieve a commendable or satisfactory grade in all course work attempted for graduate credit.

*Unsatisfactory work or withdrew while doing marginal or unsatisfactory work.
**Withdrew while doing satisfactory or commendable work.

Grade of C

An accumulation of three marginal (*C*) grades will result in termination of the student's enrollment in the graduate program. In order to continue his program of study, the student will be required to reapply and be reaccepted to the graduate program. Reapplication procedures are outlined on page 20.

Grade of U

If a student makes a grade of *U* on any course, his enrollment will be terminated. In order to continue his program of study, the student will be required to reapply and be reaccepted to the graduate program. Reapplication procedures are outlined on page 20.

Grade of I

The grade of *I* is assigned at the discretion of the instructor when a student who is otherwise passing has not completed all the work in the course. The missing work must be completed during the next semester in residence, but no later than 12 months after the end of the term in which the *I* was assigned, whichever comes first. If the *I* is not removed during the specified time, a grade of *U* or *N/C* as appropriate is automatically assigned.

Grade of W

No grade will be given for a course dropped on or before the last day to drop courses without evaluation. When a student withdraws from a course after that date, as indicated in the academic calendar, but before the end of a semester, he may receive the grade of *W* if, in the judgment of the instructor, he is doing satisfactory or commendable work and has a valid reason for withdrawal. Courses given the grade of *W* do not count as hours attempted. The time of withdrawal is the time the drop card is accepted by the Registrar's Office.

Pass-No Credit Option

Certain courses such as research seminars, tutorials, internships or theses may be designated for *pass-no credit* grading upon recommendation of the offering department and approval of the Graduate Administrative Board. The grade of *P* in such a

course shall be considered as evidence of satisfactory performance. A grade of *N/C* (no credit) will not affect eligibility for continued enrollment nor will it apply toward requirements for the degree.

Grading After Readmission

A student readmitted to the graduate program through the reapplication procedures will be expected to complete his program with satisfactory or commendable performance. Should the student receive a grade of *C* or *U* after being readmitted to the program, his enrollment in the graduate program will be terminated.

Grade Reports

All students enrolled in the University receive reports of final grades from the registrar after the close of each term. Special reports of unsatisfactory achievement are sent to the students concerned near the middle of each regular semester.

Transcripts of Records

Upon written request by the student, an official transcript of his academic record will be issued to the person or institution designated, provided that all the student's obligations to the University have been settled satisfactorily.

Each student is entitled to one transcript without cost, regardless of how early in his academic career the request may be made. A fee of $1 per copy should accompany subsequent requests.

Requests should reach the Registrar's Office at least one week before the date the transcript is needed.

Teacher Certification

Students, having completed degree requirements and filed application for their degree, who wish graduate or special service certification as public school teachers must request such certification from the State Department of Public Instruction on a form obtained from the College of Human Development and Learning.

Registration for Graduate Credit

Registration in any course is limited to the first week of a semester and the first three days of classes of summer term. No graduate credit will be given to a student for a course unless he is properly registered for it.

Dual Registration

Undergraduate students at the University of North Carolina at Charlotte, who, by written request to the director of graduate studies, accompanied by the regular application form, indicate that they plan to undertake graduate study and who, in the last semester of residence, are required to take fewer than 12 semester hours of undergraduate work to fulfill all requirements for the bachelor's degree may be allowed during the final semester to enroll in certain courses for the purpose of obtaining graduate credit, provided prior approval is granted on a Special Action Form by the student's academic adviser, the instructor(s) of each graduate course(s), the dean of the college(s) in which the graduate course(s) is offered and the director of graduate studies, in that order. The total hours to be carried in this status shall not exceed 12 hours, of which no more than nine may be for graduate credit. On the basis of work attempted prior to the final semester, such student must meet the grade point criteria for admission to a graduate degree program at the University. No course for which credit is applied to an undergraduate degree may receive graduate credit. Permission to take graduate courses under dual registration does not constitute admission to any graduate degree program at the University.

ASSIGNMENT OF ACADEMIC ADVISERS

Each student entering a graduate degree program at the University of North Carolina at Charlotte will at the time of his admission, be assigned an academic adviser or advisory committee from his field of interest. The adviser will endeavor to help each student develop the course of study best suited to the student's prior preparation and objectives. However, such assistance does not constitute a waiver of the student's personal responsibility as outlined at the beginning of these regulations.

CHANGING OF DEGREE PROGRAM

A student may change from one degree program or area of academic concentration to another provided he meets the pre-

requisites for admission to the new program and has the written approval of the dean of the college in which it is offered. Such approval should be forwarded to the registrar through the Graduate Office.

COURSE LOAD

A load of nine semester hours constitutes a normal full semester program. The graduate student load should be lower than the normal undergraduate load to encourage extensive reading, independent thinking and appropriate individual research.

Course load is dependent upon two factors: the scholastic ability of the student and the time available for study. Full-time professional public school employees are limited to one course each semester during the academic school year. Others whose full-time employment totals 40 hours a week should not carry more than seven semester hours.

ADDING OR DROPPING A COURSE

In order to add or drop a course after the registration period, a student must secure written permission from his adviser and complete the necessary procedure as prescribed by the Registrar's Office. No student will be permitted to add a course or change sections of a course after the first week of a semester or the first three days of classes in a summer term.

A student who withdraws from a course after the last day to drop courses without grade evaluation will receive a grade of *W* if, in the opinion of his instructor, he is passing at the time of withdrawal and will receive a grade of *U* if, in the opinion of his instructor, the student is doing unsatisfactory work at the time of withdrawal.

WITHDRAWAL

Any student voluntarily leaving the University before the close of the term must withdraw officially. He initiates the withdrawal procedure by scheduling a conference with the Graduate Office. A student who is unable to appear in person may notify the Graduate Office of his withdrawal by letter.

Any student who leaves the University before the close of a term without withdrawing officially will receive a grade of *U* in all courses for which he is registered. A student who is taking

only one course must withdraw officially from the University if he drops the course.

TRANSFER CREDITS

At the time of admission, up to six hours transfer credit may be accepted from another accredited institution upon approval of the student's adviser and the dean of his major college.

Courses accepted for transfer credit must be appropriate to the University program and curriculum in which the student is enrolled.

The grade in any course accepted for transfer credit must be the equivalent of that awarded for commendable or satisfactory work as defined by the University of North Carolina at Charlotte.

Courses accepted for transfer are subject to the same time limitation as courses taken in residence.

RESIDENCE CREDIT

A course is considered to be in residence if it is actually taken on the campus of the University of North Carolina at Charlotte or if credit has been awarded by virtue of an examination administered by the faculty of the college offering credit. A student may also, with the prior approval of the appropriate University of North Carolina at Charlotte college(s), take graduate courses for residence and course credit at other accredited institutions.

CREDIT BY EXAMINATION

A candidate for a degree may receive credit for work appropriate to that degree by successful performance on an examination given by the faculty of the college offering the credit. (See page 62.)

ADMISSION TO CANDIDACY

Upon completion of a substantial amount of graduate work and in no case later than two weeks prior to the beginning of the semester in which he expects to complete all requisites for the degree, a student should file for *Admission to Candidacy* on a form supplied by the Graduate Office. This application is a check sheet approved by his adviser, his department chairman and his

college dean listing all course work to be offered for the degree (including transfer credit and courses in progress.)

Upon receipt of this application, the director of graduate studies will consult with the department concerned to arrange for the scheduling of the comprehensive examination(s) and composition of the examining committee.

APPLICATION FOR THE DEGREE

Each student should make application for his degree on a form obtained from the Graduate Office no later than the filing date specified in the University calendar. The application must be accompanied by the appropriate filing fee in effect at the time of application. Degrees are awarded only at commencement exercises held at the end of the spring semester; however, the diploma will reflect the term in which all requirements were completed.

TIME LIMIT

All work offered for the master's degree must be completed within a five-year period.

POLICY ON SECOND MASTER'S DEGREE

A student is permitted to earn a second master's degree subject to the following conditions: (1) no work applied to a previously awarded degree may be applied to the new degree program; (2) the student must gain admittance to a degree program different from that of his previous graduate degree(s), and (3) the student must successfully meet all requirements for the new degree.

APPEAL PROCEDURE

Any student or applicant may appeal any decision affecting his status as a graduate student by submitting a written petition to the Appeals Committee of the Graduate Administrative Board after he has exhausted his remedies in the appropriate college. The petition shall briefly describe the facts which support his claim and the remedy being sought. The petition must be submitted within six calendar months of notification of the action being appealed. After receiving the petition, the chairman of the appeals committee will schedule a hearing as soon as possible. A hearing will be held within sixty days of receipt of the written petition of appeal. Evidence will be received from the petitioner

and other parties having information bearing on the appeal. The chairman of the appeals committee shall report its decision on any appeals matter a) directly to the Director of Graduate Studies and b) to the Graduate Administrative Board at the first board meeting following the hearing. The Director of Graduate Studies shall advise the petitioner in writing of the decision of the Appeals Committee within thirty days after the end of the hearing.

FINANCIAL INFORMATION

TUITION AND FEES

Charges for tuition and fees vary according to the student's status as a resident or nonresident of North Carolina. A nonresident student must pay a higher rate of tuition than a legal resident.

Tuition and fees are due and payable on the day of registration. Checks and money orders should be made payable to the University of North Carolina at Charlotte.

Students taking seven or more semester hours of work during a regular semester will be charged full tuition and fees. Students taking less than seven hours of work during a regular semester will be charged at the approved rate per semester hour of instruction plus a portion of the General Fee. The following tuition and fee structure will be in effect for the 1977-78 academic year unless modified by action of the appropriate authority.

Semester hour(s)	*General Fees*	*Tuition In-State*	*Tuition Out-of-state*	*Tuition and Fees In-state*	*Tuition and Fees Out-of-state*
1	$14.00	$ 22.00	$243.00	$ 36.00	$257.00
2	$14.00	$ 44.00	$243.00	$ 58.00	$257.00
3	$14.00	$ 66.00	$243.00	$ 80.00	$257.00
4	$14.00	$ 88.00	$486.00	$102.00	$500.00
5	$14.00	$110.00	$486.00	$124.00	$500.00
6	$37.50	$132.00	$729.00	$169.50	$766.50
7	$37.50	$141.00	$729.00	$178.50	$766.50
8	$37.50	$141.00	$729.00	$178.50	$766.50
9 (or more)	$97.50	$141.00	$971.00	$238.50	$1068.50

NOTE: Residence hall space is not available to students carrying less than a full load. Information concerning cost of on-campus room and board may be obtained from the Director of Residence Life.

The University reserves the right to make, with the approval of proper authorities, changes in tuition and fees at any time.

Refunds

A student who officially withdraws from the University during the first two weeks of the semester will receive a refund of the full amount paid less a fee of $25.00. This applies to both full and part-time students. No requests will be approved after the end of the normal refund period unless the student can show undue hardship which caused him to withdraw from the University.

In the event a refund is approved as a result of hardship, the refund will be made pro-rata, based on the number of weeks between the beginning of the semester and the date the student officially withdrew from the University. Requests for a refund must be submitted in writing to the vice chancellor for business affairs.

In each summer session, a student who officially withdraws from the University during the first three class days will receive a refund of the full amount paid less a registration fee of $10. Under normal circumstances no refund will be made after the first three days of the summer session unless the student can show undue hardship which caused him to withdraw from the University.

Housing

Admission to UNCC does not guarantee residence hall space. Arrangements for on-campus housing are made after admission with the director of residence life. On-campus housing is not available for married or part-time students.

All housing applications for the full academic year must be submitted with a $50 pre-payment. This pre-payment is applied to spring semester room and board charges unless the student cancels his application for the spring semester by December 10, in which case, the $50 will be refunded.

TUITION AND FEES

University Statement on Residency Status for Tuition Payment

Quotation verbatim of the current North Carolina law on this subject:

ARTICLE 14.

General Provisions as to Tuition and Fees in Certain State Institutions.

§ 116-143.1. Provisions for determining resident status for tuition purposes.—(a) As defined under this section:

(1) A "legal resident" or "resident" is a person who qualifies as a domiciliary of North Carolina; a "nonresident" is a person who does not qualify as a domiciliary of North Carolina.

(2) A "resident for tuition purposes" is a person who qualifies for the in-State tuition rate; a "nonresident

for tuition purposes" is a person who does not qualify for the in-State tuition rate.

(3) "Institution of higher education" means any of the constituent institutions of the University of North Carolina and the community colleges and technical institutes under the jurisdiction of the North Carolina State Board of Education.

(b) To qualify as a resident for tuition purposes, a person must have established legal residence (domicile) in North Carolina and maintained that legal residence for at least 12 months immediately prior to his or her classification as a resident for tuition purposes. Every applicant for admission shall be required to make a statement as to his length of residence in the State.

(c) To be eligible for classification as a resident for tuition purposes, a person must establish that his or her presence in the State currently is, and during the requisite 12-month qualifying period was, for purposes of maintaining a bona fide domicile rather than of maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education.

(d) An individual shall not be classified as a resident for tuition purposes and, thus, not rendered eligible to receive the in-State tuition rate, until he or she has provided such evidence related to legal residence and its duration as may be required by officials of the institution of higher education from which the individual seeks the in-State tuition rate.

(e) When an individual presents evidence that the individual has living parent(s) or court-appointed guardian of the person, the legal residence of such parent(s) or guardian shall be prima facie evidence of the individual's legal residence, which may be reinforced or rebutted relative to the age and general circumstances of the individual by the other evidence of legal residence required of or presented by the individual; provided, that the legal residence of an individual whose parents are domiciled outside this State shall not be prima facie evidence of the individual's legal residence if the individual has lived in this State the five consecutive years prior to enrolling or reregistering at the institution of higher education at which resident status for tuition purposes is sought.

(f) In making domiciliary determinations related to the classification of persons as residents or nonresidents for tuition purposes, the domicile of a married person, irrespective of sex, shall be determined, as in the case of an unmarried person, by reference to all relevant evidence of domiciliary intent. For purposes of this section:

(1) No person shall be precluded solely by reason of marriage to a person domiciled outside North Carolina from establishing or maintaining legal residence in North Carolina and subsequently qualifying or continuing to qualify as a resident for tuition purposes;

(2) No person shall be deemed solely by reason of marriage to a person domiciled in North Carolina to have established or maintained a legal residence in North Carolina and subsequently to have qualified or continued to qualify as a resident for tuition purposes;

(3) In determining the domicile of a married person, irrespective of sex, the fact of marriage and the place of domicile of his or her spouse shall be deemed relevant evidence to be considered in ascertaining domiciliary intent.

(g) Any nonresident person, irrespective of sex, who marries a legal resident of this State or marries one who later becomes a legal resident, may, upon becoming a legal resident of this State, accede to the benefit of the spouse's immediately precedent duration as a legal resident for purposes of satisfying the 12-month durational requirement of this section.

(h) No person shall lose his or her resident status for tuition purposes solely by reason of serving in the armed forces outside this State.

(i) A person who, having acquired bona fide legal residence in North Carolina, has been classified as a resident for tuition purposes but who, while enrolled in a State institution of higher education, loses North Carolina legal residence, shall continue to enjoy the in-State tuition rate for a statutory grace period. This grace period shall be measured from the date on which the culminating circumstances arose that caused loss of legal residence and shall continue for 12 months; provided, that a resident's marriage to a person domiciled outside of North Carolina shall not be deemed a culminating circumstance even when said resident's spouse continues to be domiciled outside of North Carolina; and provided, further, that if the 12-month period ends during a semester or academic term in which such a former resident is enrolled at a State institution of higher education, such grace period shall extend, in addition, to the end of that semester or academic term. (1971, c. 845, ss. 7-9; 1973, cc. 710, 1364, 1377; 1975, c. 436.)

Editor's Note. —

The 1975 amendment rewrote this section.

University regulations governing residential classification of students are set forth in detail in "A Manual To Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes." Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available in the Registrar's Office for inspection upon request.

Application Fee

Applicants for admission to a degree program are required to submit a $10 application fee with the application form. The fee is not deductible and is not refundable. An equivalent fee must accompany each application for readmission where permission to reenroll is not granted as a matter of routine.

Late Registration Fee

A fee of $10 will be charged for those registering after the designated registration period each semester. *The fee is not refundable.*

Applicants completing their applications before the application deadline but whose applications could not be processed in time will not be assessed the late registration fee if required to register late.

Graduation Fee

Each member of the graduating class must pay a graduation fee of $15 at the time he applies for the degree. No reduction in fees is allowed for those receiving degrees *in absentia*. For graduate students, the cost of renting a hood is in addition to the $15 charge.

Registration of Motor Vehicles

Any student attending the University is required to register his motor vehicle(s) in order to park such vehicle(s) on campus. Only vehicles owned by the student, his spouse, his parent(s) or his guardian may be registered. Unless increased by the chancellor the number of vehicles which a student may register is two.

Registration of motor vehicles is to be accomplished as part of the University registration at the beginning of the fall semester of each year or at the time when the student first registers

in the University and at the beginning of the fall semester of each year thereafter. A motor vehicle acquired by a student during a semester is to be registered as prescribed in the regulations.

The motor vehicle registration fee for students and staff members is at the time of this printing:

$30 per academic year beginning with the fall semester;

$18 for the period beginning with the spring semester and ending with the beginning of the next fall semester;

$12 for the period beginning with a summer term and ending with the beginning of the next fall semester;

$ 2 for one additional motor vehicle;

$ 1 for replacing lost or defaced permit.

The penalties for violations are under advisement. Upon approval, the penalties will be circulated and published.

Temporary parking permits are available for persons with a car registered on campus who are required to drive a non-registered car for a short period while the registered car is being repaired, for new employees prior to receipt of first pay check, and short-term visitors of resident students.

Violators of University Parking Regulations will incur a civil penalty of $1, $3, or $5, depending on the seriousness of the violation. If not paid in five days, the penalty will be doubled and applied to member's account with the University and collectable as a bad debt. Subsequent registration may be withheld for non-payment.

Credit by Examination Fee

Fees for credit by examination are as follows: A written examination for a course will require a fee of $15. A laboratory examination requiring the arrangement of such things as laboratory materials will require a fee of $25. A combination of a laboratory and written examination will require a fee of $30.

Student Activities Fee

A part of the general fee provides students with a program of cultural, recreational and entertainment activities. It pays for

admission to most athletic contests, dramatic productions, activities sponsored by the Student Activities Board, social and entertainment functions and for subscriptions to the newspaper and literary magazine. The yearbook is provided free to all students taking eight or more semester hours of each semester during the academic year. Other students may obtain a yearbook upon payment of $8.50.

Education for the Vocationally Handicapped

Students who have suffered a disability which renders them vocationally handicapped are eligible for aid provided by the North Carolina State Division of Vocational Rehabilitation. This aid takes the form of services which include vocational counseling and guidance and placement. Payment of expenses such as training, medical treatment, room and board, books, fees and tuition may be available. A vocational rehabilitation officer is available in Charlotte for interviewing applicants. Appointments may be made by contacting the Vocational Rehabilitation Office located at 219 East Blvd., 375-8686.

Veterans Benefits

The Office of the Registrar works with the Veterans Administration to assist in administering the various programs of benefit to veterans or eligible relatives of veterans. The veterans clerk in the Registrar's Office certifies enrollment and transmits necessary credentials and information to the proper Veterans Administration Office.

Admission to the University should be obtained before the student makes application for veteran's benefits. Application for a certificate of eligibility should be made to the nearest Veterans Administration Regional Office at least six weeks before the expected date of enrollment.

In order to be eligible for the full monthly allowance under any of the above laws, an undergraduate student must be enrolled for 12 or more semester hours of work, while a graduate student must be enrolled for nine or more semester hours. Those enrolled for fewer semester hours than the limits stated above will be eligible for part-time compensation. Students are responsible for reporting any change in enrollment status to the veterans clerk in the Office of the Registrar.

Financial Aid

The University has a limited number of graduate assistantships in the fields of biology, chemistry, political science, mathematics and geography. Such financial support will be extended to other areas of study as rapidly as resources become available. Application for a graduate assistantship should be filed in writing with the appropriate department through the director of graduate studies not later than the February preceding the fall semester for which the assistantship is desired.

Financial Aid is available to graduate students who are United States citizens. North Carolina residence is frequently one of the eligibility requirements for graduate participation in grant aid programs.

For purposes of financial aid, a full-time student is defined as one who is taking a minimum of nine semester hours of course work. The student receiving financial assistance from the University must be working toward a degree and not simply taking graduate courses.

Graduate students will also be considered for University employment upon request. However, all graduate students seeking employment must have the approval of their department heads.

Short term loans for periods up to 30 days are also available for graduate students. These loans are of an emergency nature and may be applied for in the Student Aid Office.

For information and application for financial aid, contact the Student Aid Office, Atkins Library, University of North Carolina at Charlotte, UNCC Station, Charlotte, North Carolina 28223.

Placement Service

The Placement Office (located in Room 01, Atkins Library) functions as the central placement agency for the campus and serves graduate students, undergraduates, and alumni by assisting them in developing their career objectives (preferably beginning with their admission to the University) and in obtaining employment. Services include career planning and guidance; advising on the techniques of employment prospecting, on job selection and analysis, on interviewing, on the preparation of

resumes and writing of business letters; maintaining, for student browsing, files of information on prospective employers (business firms, governmental agencies, school systems) and on graduate school fellowships and assistantships; providing liaison between employers or graduate schools and graduates through on-campus recruiting by employers and graduate school representatives and by individual referral for current employment openings.

Students who wish to earn part of their educational expenses or to gain work experience may register for part-time, full-time or summer employment off campus. Every effort is made to assist the student who expresses a need for employment and, where possible, to place him in a position relating to his vocational goal.

Degree candidates register with the Placement Office on a voluntary basis early in their graduating year by completing a resume and requesting three professors and/or employers to complete confidential evaluations on forms provided by the Placement Office. At the present time, these credentials are retained on a permanent basis.

The Family Educational Rights and Privacy Act of 1974 provides that the release of these credentials or information in the file must be authorized in writing by the registrant unless the information is a matter of public record, and that under certain conditions each student may have the right to review his/her placement file (resume and evaluations) and to obtain a copy of it for a fee.

All employers and schools interviewing on campus or listing openings with the Placement Office must indicate that they are equal opportunity employers, that is, that in hiring, compensation, promotion, training or admission they do not discriminate on the basis of race, color, religion, sex or national origin.

COURSES OF STUDY

Following are graduate courses offered by the University of North Carolina at Charlotte, listed by colleges and under the department or academic area concerned.

Courses are listed with the departmental abbreviation, course number, title of the course, the semester hours credit given in parenthesis, prerequisites, if any, and a description of the subject matter covered, with whatever requirements of class or laboratory hours are applicable. If no class hours are given, the number of class sessions per week is the same as the number of semester hours credit for the course.

The student must arrange his program in consultation with his major college of academic or professional concentration. Students intending to teach should consult both the major department and the College of Human Development and Learning.

College of Business Administration

Dean: Professor Palmer

Enrollment in the following graduate courses offered by the College of Business Administration is normally restricted to graduate students who have completed all prerequisites and have been admitted to full standing in the Master of Business Administration program.

COURSE DESCRIPTIONS

MGT 611. ECONOMIC ANALYSIS I. (3) A study of the method of economic analysis employed in the examination of the external economic environment of the organization. The economic factors determining changes in national income and levels of economic activity in the nation, region and industry are considered and analyzed. Analytical concepts and techniques for forecasting general economic and industry activity are developed, and the relevance of such techniques for administration of organizations is examined.

MGT 612. ECONOMIC ANALYSIS II. (3) This course examines the operation of the pricing system within the various market structures of the economy. Included are the price and output decision of the firm under conditions of pure competition, monopoly, oligopoly and monopolistic completion. The problems of economic concentration, resource allocation and the role of government in a market economy are studied.

MGT. 621. INFORMATION SYSTEMS I. (3) A study of the planning, design, implementation and control of management information systems. Emphasis is placed on the merging utilization of more advanced information systems, the role of information in the management process and the networks necessary for efficient transmittal of information to the proper sources. Of particular importance is the generation and analysis of data for decision making.

MGT 622. INFORMATION SYSTEMS II. (3) An analytical approach to the management process. Generalized models for decision making will be explored with major emphasis placed on the application of the scientific method to management problems.

MGT 631. MANAGERIAL ACCOUNTING. (3) A study of management's uses of accounting. Topics include profit planning and control, evaluation of performance, cost analysis and income tax planning.

MGT 641. PRODUCTION MANAGEMENT. (3) This course draws upon the economic, behavioral and quantitative disciplines and integrates them with the production function of an industrial organization. Product, capacity and operating systems are identified and analyzed. Case studies and computer techniques are to be used extensively.

MGT 651. FINANCIAL MARKETS. (3) A broad survey of both the money and capital markets. Interest rate determination and determinants of money supply and demand will be stressed. Emphasis will also be given to principal instruments within the interactions between the money and capital markets.

MGT 652. FINANCIAL MANAGEMENT. (3) Theory and practice of corporate finance including asset management, cost of capital and capital budgeting, optimization problems and socio-economic aspects of financial management. Computer technology will be employed.

MGT 653. INVESTMENT MANAGEMENT. (3) Theory and practice of investment problems of individuals and fund managers. Investment analysis, elements of the investment process and criteria for investment decisions will be emphasized with employment of the computer as relevant.

MGT 661. ADMINISTRATIVE PRACTICE I. (3) The purpose of this course is to develop a student's ability to analyze the conduct of consumers, workers, investors and managers. Problems in marketing research, industrial relations, investment relations and management development are stressed. Recruiting, interviewing, negotiating and selling-buying practices are analyzed and simulated.

MGT 662. ADMINISTRATIVE PRACTICE II. (3) The purpose of this course is to develop a student's ability to analyze organizations and plan their evolution. Problems in administrative leadership, marketing, production and financial organizations are analyzed and simulated.

MGT 671. MARKETING AND LOGISTICS. (3) This course draws upon the disciplines of economics, the behavioral sciences and mathematics to develop perception and skill in marketing and logistics management. The focus is upon the decisions required to effectively balance the objectives and resources of the firm in developing successful marketing and logistics strategies. Case studies, simulations and computer techniques will be used in this course.

MGT 672. MARKETING RESEARCH AND FORECASTING. (3) This course will explore the techniques and methodology used in the collection, analysis and interpretation of economic, demographic and sociological data for use in managerial decision-making. The techniques of economic, industry and sales forecasting will be developed.

MGT 673. MARKETING COMMUNICATION AND PROMOTION. (3) The problems of mass communication, advertising, promotion and public relations will be explored in depth. The legal and ethical problems involved in this area will be analyzed. Case studies will be used.

MGT 690. DIRECTED INDIVIDUAL STUDY. (3-6) This course is designed to permit a student to undertake directed individual study and in-depth analysis of a special area of management, economics, business or accounting. The course may be used to satisfy up to six semester hours of graduate credit requirements in the Master of Management degree program and may be repeated for credit providing a different area of study is undertaken each time. Permission of a member of the graduate faculty who would direct the study must be secured before registering for the course.

MGT 692. MANAGEMENT ETHICS. (3) The purpose of this course is to develop a student's ability to analyze the polittical, moral and legal aspects of policy formulation. Management's responsibilities to consumers, employees, investors and the public are stressed. Students are encouraged to develop a concept of professional management applicable in complex organizations.

MGT 694. MANAGEMENT STRATEGY. (3) This course is designed to synthesize the concepts and analytical methods de-

veloped throughout a candidate's program of study. Students are required to solve organizational problems encountered by top administrators. The interdependency of marketing, production and financial functions is stressed. Participation in a complex simulation is an integral part of this course.

College of Human Development and Learning

Dean: Professor Chase

The College of Human Development and Learning has primary responsibility for the Master of Education. This includes responsibility for admission and advising in the selection of a course sequence fulfilling the requirements for the degree.

PHASE I

EXPLORATIONS IN HUMAN POTENTIAL
(Philosophical and Psychological Foundations)

HDL 600. EXPLORATIONS IN HUMAN POTENTIAL. (3) A course designed to explore in depth the identification, development and release of human potential. Emphasis will be given to techniques, relationships and programs which develop potential. The course is organized to be taught by a team giving opportunities for the student to study in depth areas of interest and need such as: A. The person and the school in urban society, B. The facilitation of meaning and C. Children and youth.

HDL 603. EDUCATIONAL ASPECTS OF DEVELOPMENTAL EXCEPTIONALITIES. (3) A course designed to study selected theories and concepts in humanistic education and learning the impact of stigma as related to the practice of education for the exceptional child.

HDL 605. ADOLESCENCE AND LEARNING. (3) Prerequisite: HDL 600C or permission of the instructor. An in-depth study of the physical, affective and cognitive development of the adolescent and the impact of these factors upon learning. Emphasis is placed on the exceptionalities of adolescence and their impact on education through the utilization of case studies, observation, lecture and discussion.

HDL 606. ADJUSTMENT PROBLEMS, CHILDREN AND YOUTH. (3) A study of adjustment problems from childhood and adolescence in relation to theoretical postulates and to school problems. Special emphasis is given to problems of behavior and attitudes toward learning and relationships.

HDL 608. LEARNING AND DEVELOPMENT. (3) Investigations in the historical and contemporary explanations of the learning phenomena particularly as they apply to the teacher/learner relationship. Emphasis is placed on the relationship between learning and other aspects of the process of growth and development.

HDL 609. INTEREST, APTITUDE, INTELLIGENCE. (3) Study of the social, psychological and philosophical concepts of interest, aptitude and intelligence as they contribute to the understandings of an individual. Opportunities are provided for students to become familiar with the theoretical concepts involved in assessing these facets of human behavior as well as to gain some experience in administering and interpreting current evaluative instruments in the field.

HDL 610. THE DESIGN AND ANALYSIS OF RESEARCH IN HUMAN DEVELOPMENT AND LEARNING. (3) This seminar is designed to enhance the individual's ability to conduct and utilize research to contribute to his understanding of human potential. Emphasis will be given to the selection of experimental variables, research design, sampling techniques and data gathering and analysis procedures. Opportunities will be provided for the student to plan and analyze research in his particular field of interest.

HDL 612. PHYSIOLOGICAL ASPECTS OF LEARNING. (3) A survey of the human nervous system and the multiple factors affecting the functioning of the nervous system. Attention is given to different developmental abnormalities and disease processes at different ages and the effect of these factors on learning. Emphasis is placed upon the application of these concepts in working with children and youth.

II
MEANING AND GROWTH IN TEACHING/LEARNING RELATIONSHIPS
(Curriculum and Instruction)

HDL 620. CURRICULUM THEORY. (3) A study of the determinants of curriculum as they relate to facilitation of the transition from theory to practice. The course is organized to be taught by a team giving opportunities for the student to study in

depth areas of interest and need such as: (A) Meaning and Growth, (B) Creativity and Experiences and (C) Strategies and Designs. Emphasis is placed on research and experimentation in the development of theory, processes, materials and relationships in curriculum design.

HDL 625. CONCEPTS OF TEACHING AND LEARNING. (3) A course designed to provide the student with an opportunity to critically examine current trends and practices in particular areas of the curriculum such as: (A) Integrated Studies, (B) Language Development and Reading, (C) Science, (D) Mathematics, (E) Gifted and Talented, (F) Children's Play, (G) Children's Writing and (H) Learning Disabilities.

HDL 626. CONCEPTS OF DIAGNOSTIC INSTRUCTION. (3) A course designed to provide the student with an opportunity to study the theory of and to develop his individual diagnostic techniques in particular areas of specialization such as: (A) Learning Disabilities, (B) Reading, (C) Gifted and Talented and (D) Mathematics.

HDL 630. EXAMINATION AND APPRAISAL OF READING INSTRUCTION. (3) Aspects of the reading program ranging from readiness to diagnostic and remedial techniques. Current practices and materials used in reading programs are investigated and evaluated. Emphasis will be placed on a flexibility of programs to meet the learning needs of individual students.

HDL 635. LEARNING MEDIA, RESOURCES AND TECHNOLOGY. (3) The selection, use and evaluation of technological innovations in instructional media will be studied. Laboratory experiences will emphasize media application in the enrichment of the instructional program.

III
THE HELPING RELATIONSHIP

HDL 660. BEHAVIORAL ANALYSIS OF ADMINISTRATION. (3) An extensive study of the behavioral components of administrative theory, organization, decision making and planning for educational development. An appraisal of significant functions, techniques, practices and problems as they relate to the public school systems, to other social institutions, with the system of social and governmental entities.

HDL 663. DEVELOPMENTAL APPROACHES TO THE THEORY AND PRACTICE OF GUIDANCE. (3) A study of guidance and counseling as a developmental concept with

emphasis upon the philosophical, social and psychological bases for the helping relationship. Experiences are provided to facilitate the necessary competencies—self analysis, value judgments and the creation of relationships needed to facilitate the growth of others toward personhood.

HDL 665. ANALYZING AND DEVELOPING APPROACHES TO THE HELPING RELATIONSHIPS. (3) A course designed for the study of ways, means and concepts of improving instruction, learning and development through the helping relationship. The course is organized to be taught by a team giving opportunities for the student to study in depth areas of interest and need such as: (A) Person to Person Relationships, (B) Group Process and Behavioral Change, (C) Counseling, (D) Supervision, (E) Leadership and other approaches and processes defined as the helping relationship.

IV
EXPERIENCE AND COMMITMENT IN HUMAN DEVELOPMENT AND LEARNING

Courses for Advanced Undergraduates and Graduates

HDL 570. SELECTED TOPICS IN HUMAN DEVELOPMENT AND LEARNING. (3-6) Prerequisite: HDL 210 and permission of the College of Human Development and Learning. Topics and special problems chosen in relation to human learning, ideas, practices, significant movements or detailed study and clinical experiences. May be repeated for credit with approval. Offered only on a *Pass/No Credit* basis.

Courses for Graduates Only

HDL 670. RESEARCH IN CLINICAL EXPERIENCES IN ANALYZING TEACHER/LEARNER BEHAVIOR. (3-6) Prerequisite: permission of the College of Human Development and Learning. A course designed to provide observational and teaching experiences as a member of a teaching team in: (A) Early Childhood Education, (B) Intermediate Education, (C) Secondary Education and in other areas of teaching interests. The course is designed to provide supervision, analysis and planning by a specialist in various areas. Emphasis will be given in instructional change, program development and to the development of unique teaching styles. These experiences are organized with children in a model setting. Offered only on a *Pass/No Credit* basis.

HDL 671. SEMINAR AND INTERNSHIP IN HUMAN DEVELOPMENT AND LEARNING. (3-6) Prerequisite:

permission of the College of Human Development and Learning. Supervised experiences in observation, involvement and administrative participation in clinical settings in schools, clinics, learning centers, social agencies and other centers devoted to human development and learning. Emphasis is given to independent experiences and to experience as a member of a learning team in relation to behavior, behavior analysis and to the personal and professional growth of the intern in: (A) Teaching, (B) Counseling, (C) Administration, (D) Supervision, (E) Leadership, (F) Learning Disabilities, (G) Reading and (H) Gifted and Talented. Seminars, held concurrently with the internship experience, are designed to critically analyze behavior, develop materials, to study administrative models and to examine theory in relation to practice. May be repeated for different experiences. Offered only on a *Pass/No Credit* basis.

HDL. 672. PROBLEMS IN HUMAN DEVELOPMENT AND LEARNING. (3-6) Prerequisite: permission of the College of Human Development and Learning. Designed to permit students to conduct action research on selected problems, guided readings, research and individual project work under the direction of a staff member. This course may be repeated for credit with the approval of the College of Human Development and Learning. Offered only on a *Pass/No Credit* basis.

HDL 673. SEMINAR. (1-3) Prerequisite: permission of the College of Human Development and Learning. Designed to provide an opportunity for group analysis of selected areas of interest in human growth and development. Provides for study related to an individual's professional development. Appropriate studies may include independent research, analysis of significant movements and practices, the development of significant ideas or detailed study of the major works of a prominent individual in the field. This course may be repeated for credit with the approval of the College of Human Development and Learning. Offered only on a *Pass/No Credit* basis.

HEALTH AND PHYSICAL EDUCATION

Chairman: Associate Professor Murphy

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

PED 506. MOVEMENT THERAPIES FOR DEVELOPMENTAL EXCEPTIONALITIES. (3) A study of theories, principles, programs and research in movement therapy. De-

signed to aid the student in the evaluation of the learner for the selection and implementation of appropriate movement therapy.

LIBRARY SCIENCE

Director: Associate Professor Boykin

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

LBS 520. ORGANIZATION AND ADMINISTRATION OF THE SCHOOL MEDIA CENTER. (3) Acquisition, processing, circulation of materials; student assistants; records and reports; attendance and scheduling; library quarters and equipment; professional relationships; evaluation of library services.

LBS 522. BASIC REFERENCE SOURCES AND MATERIALS. (3) The selection, evaluation and use of basic reference materials.

LBS 524. READING GUIDANCE AND THE SELECTION OF BOOKS AND MATERIALS FOR CHILDREN. (3) A survey of the development of children's literature, with study of aids and criteria for selection of books and other materials; principles and objectives of reading guidance for the kindergarten and elementary school pupil.

LBS 526. READING GUIDANCE AND THE SELECTION OF BOOKS AND RELATED MATERIAL FOR YOUNG PEOPLE. (3) A survey of library materials and principles and objectives of reading guidance appropriate for the junior high and high school student, with study of aids and criteria for their selection.

LBS 528. NON-BOOK MATERIALS. (3) A study of the principles and techniques for the selection, acquisition, organization, circulation and use of non-book materials in the library program.

College of Engineering

Dean: Professor Barnette

The College of Engineering does not presently offer any graduate degree program. The course listed below is offered in support of the Master of Education degree offered by the College of Human Development and Learning.

COURSE DESCRIPTION

ET 490. SPECIAL TOPICS IN ENGINEERING TECHNOLOGY. (Variable credit 1-4 hours. May be repeated for credit.) Prerequisite: senior standing in Engineering Technology or consent of the department. The course will be devoted to specific new areas which are emerging in the various fields of Engineering Technology. Given at the senior level, the course will build upon and synthesize the knowledge the students have gained from their Engineering Technology curriculum.

College of Humanities

Dean: Professor Mathis

Primary responsibility for admission to and advising in programs leading to the Master of Arts in Education with academic concentration in English or history rests with the appropriate academic department. The courses listed below are designed to meet the needs of these programs but may be elected by other graduate students who meet prerequisites for admission. The Department of Foreign Languages and the Department of Religious Studies offer a limited number of graduate courses, which may be elected by qualified students.

Awards

The Andreas Bakis Prize is awarded annually to a graduate student for outstanding performance in the study of the English language.

Chairman: Professor Burne

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

ENG 305. EXPOSITORY WRITING. (3) The writing of essays, criticisms and various forms of exposition.

ENG 306. INTRODUCTORY CREATIVE WRITING. (3) Open to students of at least sophomore standing who have satisfied the requirements of ENG 101 and 102. Writing of fiction, poetry or drama.

ENG 311. CHAUCER. (3) *The Canterbury Tales*, *Troilus* and *Criseyde* and selected minor works.

ENG 321. THE EARLIER SEVENTEENTH CENTURY. (3) Major writers from Bacon and Donne to the Restoration.

ENG 331. HISTORY OF THE ENGLISH LANGUAGE. (3) Origins and development of the English language and its present usage.

ENG 401. MODERN LITERARY CRITICISM. (3) Critical theories of the modern schools.

ENG 405. WRITING WORKSHOP. (3) Prerequisite: ENG 306 and permission of the instructor. May be repeated twice for credit with the consent of the department.

ENG 406. ADVANCED EXPOSITORY WRITING. (3) Prerequisite: ENG 305. May be repeated twice for credit with the permission of the department.

ENG 413. ENGLISH PROSE AND POETRY OF THE SIXTEENTH CENTURY. (3) The major works, excluding drama, More through Spenser, with attention to the development of the lyric.

ENG 421. THE ENGLISH NOVEL BEFORE SCOTT. (3) Major writers and traditions, Defoe through Jane Austen.

ENG 422. THE NOVEL FROM SCOTT THROUGH THE VICTORIANS. (3) Major writers and traditions through Hardy.

ENG 423. THE MODERN BRITISH NOVEL. (3) Representative British novels showing the philosophies and techniques affecting British fiction, from Hardy to the present.

ENG 424. MODERN IRISH LITERATURE. (3) The study of important developments in Irish literature between 1885 and the death of Yeats (1939).

ENG 431. ENGLISH DRAMA TO 1600, EXCLUDING SHAKESPEARE. (3) A survey of the development of English drama to 1600, with representative plays from the Mystery-Miracle Cycles, the Morality Plays and Tudor drama, including Lyly, Kyd, Marlowe, Peele, Greene and Dekker.

ENG 432. ENGLISH DRAMA FROM 1600 TO 1642, EXCLUDING SHAKESPEARE. (3) A survey of Jacobean and Caroline drama, including plays by Jonson, Beaumont and Fletcher, Webster, Middleton, Shirley and Ford.

ENG 433. ENGLISH DRAMA FROM 1660 to 1780. (3) Representative plays of the Restoration and Eighteenth Century (Davenant to Sheridan), studied in connection with conditions in the theaters and pertinent dramatic criticism of the period.

ENG 441. COLONIAL AND EARLY AMERICAN LITERATURE. (3) American literature from Colonial times through Washington Irving.

ENG 445. LITERATURE OF THE AMERICAN SOUTH. (3) Selected works of Southern writers from Colonial times to the present.

ENG 450. CONTEMPORARY POETRY. (3) Poetry in English (including translations) since 1940.

ENG 451. MODERN DRAMA. (3) Representative British and American plays from Shaw to the present.

ENG 452. MODERN EUROPEAN LITERATURE. (3) The study of selected European authors and their intellectual backgrounds.

ENG 453. CONTEMPORARY FICTION. (3) Study of selected present-day novels in English and in translation.

ENG 461. MODERN ENGLISH GRAMMAR. (3) Prerequisite: ENG 331 or 332. A descriptive analysis of the structure of Modern English, with emphasis upon the transformational approach.

ENG 465. LANGUAGE AND CULTURE. (3) Prerequisite: ENG 331 or ENG 332. Readings in and discussion and applications of the interrelationships between language and culture, including a basic introduction to the study of current American social and geographic dialects, with some attention to the study of pidgin and creole languages.

ENG 601. BIBLIOGRAPHY AND METHODOLOGY. (3) An introduction to the scope, aims, materials and methods of literary scholarship, including criticism.

ENG 611. SHAKESPEARE'S COMEDIES AND HISTORIES. (3) Detailed study of source materials, textual problems and stage conventions in selected comedies and history plays illustrating Shakespeare's dramaturgy.

ENG 612. SHAKESPEARE'S TRAGEDIES. (3) Source materials, textual problems and stage conventions of selected tragedies, chosen primarily from the period of the great tragedies, illustrating Shakespeare's dramaturgy.

ENG 613. MILTON. (3) The complete poetry and selections from the prose.

ENG 623. THE AUGUSTAN AGE. (3) The chief literary figures and conventions in the light of intellectual and historical currents.

ENG 625. THE ROMANTIC ERA, 1785-1832. (3) The development of the Romantic movement with emphasis on the works of Wordsworth, Coleridge and other major poets.

ENG 626. THE VICTORIAN ERA, 1832-1900. (3) Emphasis on Tennyson, Robert Browning, Arnold, Carlyle, Ruskin and Newman.

ENG 641. AMERICAN ROMANTICISM. (3) Major writers of the 1830's, 40's and 50's, including Hawthorne, Melville, Whitman, Emerson, Thoreau and the Transcendental movement.

ENG 642. AMERICAN REALISM AND NATURALISM. (3) Major writers of the two movements before and after the end of the nineteenth century, including Twain, Howells, James, Crane, Dreiser and Norris.

ENG 643. AMERICAN MODERNISM. (3) Six to eight writers of the period since World War I, both prose and poetry.

ENG 647. PERSPECTIVES IN AFRO-AMERICAN LITERATURE. (3) A survey of Afro-American literature emphasizing the major authors, those relevant historical and social factors, and those specific literary movements which have influenced the development of Afro-American literature.

ENG 661. INTRODUCTION TO LINGUISTICS. (3) The science of linguistics, its techniques and objectives; descriptive and historical linguistics; language families of the world; language and society.

ENG 662. ADVANCED RHETORIC. (3) Prerequisite: ENG 461 or permission of instructor. The fundamental principles of classical rhetoric and an intense examination of the governing principles of the "new" or descriptive rhetorics.

ENG 680. SEMINAR IN ENGLISH LITERATURE. (3)

ENG 685. SEMINAR IN AMERICAN LITERATURE. (3).

ENG 690. DIRECTED READING. (3)

FOREIGN LANGUAGES

FRENCH

Chairman: Professor Gabriel

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

FRE 331. FRENCH PHONETICS. (3) Prerequisite: FRE 202 or permission of the department. Study of the sounds of the French language, their production and their representation by means of the International Phonetic Alphabet. Practice in reading and speaking with proper rhythm and intonation. Three class hours and two hours of laboratory work per week.

FRE 403. FRENCH LITERATURE OF THE NINETEENTH CENTURY. (3) Prerequisites: FRE 303 and 304 or permission of the department. Concentration on the sources of the 19th century literary ideas, the principal literary movements and the principal poets, dramatists, novelists and critics.

FRE 405. THE AGE OF ENLIGHTMENT. (3) Prerequisite: FRE 303 or permission of the department. Major emphasis of "les philosophes," especially Montesquieu, Voltaire, Diderot and Rousseau.

FRE 408. THE SEVENTEENTH CENTURY. (3) Prerequisite: FRE 303 or permission of the department. Study of Pre-Classical and Classical trends in 17th century French literature. Emphasis on the work of major writers of the period: Descartes, Pascal, Corneille, Moliere, Racine, LaFontaine.

FRE 450. SPECIAL TOPICS IN FRENCH. (3) Prerequisite: two 300 courses or permission of the instructor. Treatment in depth of a special subject group or figure in French literature or French culture. May be repeated for credit with change of topic. Open for graduate credit with permission of the instructor.

GERMAN

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

GER 403. SURVEY OF GERMAN LITERATURE I. (3) Prerequisite: two 300-level courses (not 360) or permission of the department. General introduction to German literature from the Middle Ages to the Classical Period. Book reports and class discussion on collateral readings.

GER 404. SURVEY OF GERMAN LITERATURE II. (3) Prerequisite: two 300-level courses (not 360) or permission of the department. German literature since classicism. Book reports and discussion on collateral readings.

GER 410. PERIODS IN THE HISTORY OF GERMAN LITERATURE: a) Medieval literature, b) Classicism, c) Romanticism, d) Contemporary literature. (3) Prerequisite: two 300-level courses (not 360) or permission of the department. Study of the major writers and works in a given period. Readings, lectures and reports. May be repeated for major credit as topic changes.

GER 420. THE CHIEF GENRES IN GERMAN LITERATURE: a) The novel, b) The drama, c) Lyric poetry. (3) Prerequisite: two 300-level courses (not 360) or permission of the department. An analysis of a major genre and its development within German literary history. (Readings, lectures and reports.) May be repeated for major credit as topic changes.

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

SPA 401. NINETEENTH CENTURY SPANISH LITERATURE. (3) Prerequisite: two 300-level courses or permission of the department. Survey of peninsular literature from Costumbrismo through the Generation of 1898. Lectures, discussions and reports on basis of extensive collateral reading. Course conducted in Spanish.

SPA 402. TWENTIETH-CENTURY SPANISH LITERATURE. (3) Prerequisite: two 300-level courses or permission of department. Treatment of major developments from the Generation of 1898 to the present day. Lectures, discussions and reports on the basis of extensive collateral readings. Course conducted in Spanish.

SPA 405. THE GOLDEN AGE OF SPANISH LITERATURE I. (3) Prerequisite: two 300-level courses or permission of department. *El Lazarillo* through *El Criticon.* Lecture, discussions and reports on basis of extensive collateral reading. Course conducted in Spanish.

SPA 406. THE GOLDEN AGE OF SPANISH LITERATURE II. (3) Prerequisite: two 300-level courses or permission of department. Study of works of the leading dramatists and poets of the period with emphasis on Lope, Tirso do Molina, Ruiz de Alarcon and Calderon. Lectures, discussions and reports on basis of extensive collateral readings. Course conducted in Spanish.

SPA 411. STUDIES IN SPANISH AMERICAN PROSE FICTION. (3) Prerequisite: two 300-level courses or permission of the department. Studies of nineteenth and twentieth century Spanish American prose fiction. Course conducted in Spanish.

SPA 412. STUDIES IN SPANISH AMERICAN POETRY AND DRAMA. (3) Prerequisite: two 300-level courses or permission of the department. Studies of nineteenth and twentieth

century Spanish American drama and/or poetry. Course conducted in Spanish.

SPA 413. DON QUIJOTE. (3) Prerequisite: two 300-level courses or permission of the department. In-depth study of Cervantes' masterpiece, which is considered by many critics to be the basis of the modern Western novel. Course conducted in Spanish.

SPA 450. SELECTED READINGS IN SPANISH. (3) Prerequisite: two 300-level courses or permission of the department. Consideration in depth of a predetermined author or literary movement. Course conducted in Spanish.

HISTORY

Acting Chairman: Professor Wrigley

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

HIS 411. PROBLEMS IN HISTORY. (3) A colloquium designed around a problem in history, utilizing reading, discussion, reports and short papers. Topics vary within the fields of American, European, Latin American, African and Asian history. May be repeated for credit.

HIS 414. Early U.S. INTELLECTUAL HISTORY TO 1860. (3) Development of American social institutions and thought from the beginning to the Civil War. The course is conducted as a colloquium, combining lectures, discussions, extensive reading and oral reports and a research paper by each student.

HIS 415. MODERN U.S. INTELLECTUAL HISTORY SINCE 1860. (3) Continuation of HIS 414 from the Civil War to the present.

HIS 416. RECENT AMERICAN RADICALISM. (3) Radical thought and action in the United States since 1890. Emphasis on Marxian-Socialism, Black and labor radicalism, radical women and the New Left movement.

HIS 492. SEMINAR IN HISTORY. (3) Prerequisite: consent of the department. An intensive examination of a subject in history. May be repeated for credit.

HIS 601. DIRECTED READINGS/RESEARCH. (3) Prerequisite: prior written consent of instructor and graduate coordinator. Graduate students will meet individually or in small groups with the instructor and will be assigned readings and/or research on a theme which relates to the lectures of an undergraduate class. Attendance at the lectures is a course requirement, but evaluation and credit will be based on directed readings/research and conferences or small group discussion. May be repeated for credit.

HIS 602. CURRICULUM MATERIALS IN HISTORY. (3) Prerequisite: Prior written consent of instructor and graduate coordinator. May be repeated for credit. Graduate students will meet individually or in small groups with the instructor and will develop syllabi, lesson plans, bibliographies, and instructional materials on a theme which relates to the lectures of an undergraduate class. Attendance at the lectures is a course requirement, but evaluation and credit will be based on the curriculum materials developed and on conference or small group discussion.

HIS 650. TOPICS IN HISTORY. (3) Intensive treatment of a period of a broader survey of a topic, depending on student needs and staff resources. May be repeated for credit.

HIS 693. HISTORIOGRAPHY AND METHODOLOGY. (3) A study of the historian and his philosophical and methodological approach. Required of all M.A.Ed. candidates.

HIS 694. READINGS IN HISTORY. (3) Prerequisite: prior written consent of instructor. Coverage of historical periods or topics through individually designed reading programs; scheduled conferences with a staff member. May be repeated for credit.

HIS 696. GRADUATE COLLOQUIUM. (3) A colloquium focused on a theme or period. Assigned readings, short papers and reports directed toward developing research and writing skills. May be repeated for credit.

HIS 697. DIRECTED RESEARCH. (3) Prerequisite: prior written consent of instructor. Investigation of a historical problem culminating in a research paper. May be repeated for credit.

RELIGIOUS STUDIES

Chairman: Professor Underwood

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

REL 432. RELIGION AND MODERN THOUGHT. (3) Prerequisite: consent of the instructor. An intensive analysis of selected issues which stem from the interaction of modern thought and modern religious sensibilities.

College of Science and Mathematics

Dean and Charles H. Stone Professor: Burson

The College of Science and Mathematics offers the Master of Science degree through its Departments of Biology and Chemistry. The college also has primary responsibility, through its Department of Mathematics, for the admission and advising of students seeking the Master of Arts in Mathematics and the Master of Arts in Education with an academic concentration in mathematics. Students enrolled in other graduate programs who meet the prerequisites for specific graduate courses in a science or mathematics may elect such courses with the approval of their adviser and the offering department.

BIOLOGY

Chairman: Professor Arvey

Courses for Graduate Credit

The graduate student may select courses from the following list. Selection of courses will depend upon the background of the student; the potential candidate must demonstrate competence in the areas of plant, animal and cell biology. These course offerings will allow a foundation for breadth of training and pursuit of a specialty.

Courses for Advanced Undergraduates and Graduates

BIO 311. MICROBIOLOGY. (3) Prerequisite: BIO 231. Morphology, physiology and methods of culture and control of microscopic organisms. Three lecture hours a week.

BIO 311L. MICROBIOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 311. One laboratory period of three hours a week.

BIO 319. PLANT SYSTEMATICS. (4) Prerequisite: BIO 211. Identification, classification and phylogenetic relationships of seed plants, including preparation and preservation of specimens. Two lecture hours and two laboratory periods of two hours each week.

BIO 321. VERTEBRATE ZOOLOGY. (4) Prerequisite: BIO 221 or consent of department. Taxonomy, anatomy, physiology and life histories of vertebrates with emphasis on local forms. 321A - Icthyology, 321B - Herpetology, 321C - Ornithology, 321D - Mammalogy. Three lecture hours and one laboratory period of three hours a week.

BIO 323. PARASITOLOGY. (4) Prerequisite: BIO 221. Morphology, life cycles, ecology, taxonomy and economic importance of parasites. Three lecture hours and one laboratory period of three hours a week.

BIO 325. INVERTEBRATE ZOOLOGY. (4) Prerequisite: BIO 221. Taxonomy, anatomy, physiology and life histories of invertebrates, with main emphasis on species important to man. Three lecture hours and one laboratory period of three hours a week.

BIO 331. GENETICS. (3) Prerequisite: BIO 231 or one course in biology and consent of department. Basic concepts of heredity: principles of classical and molecular genetics. Three lecture hours a week.

BIO 331L. GENETICS LABORATORY. (1) Prerequisite or corequisite: BIO 331. One laboratory period of three hours a week.

BIO 333. PLANT GROWTH AND DEVELOPMENT. (4) Prerequisites: BIO 211 and 231. Growth and development of plants with emphasis on physical and chemical differentiation. Three lecture hours and one laboratory period of three hours a week.

BIO 338. EMBRYOLOGY. (3) Prerequisite: BIO 221 or 101 with consent of department. Developmental processes occurring chiefly during gametogenesis, fertilization, early embryogenesis and organogenesis. Three lecture hours a week.

BIO 338L. EMBRYOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 338. One laboratory period of three hours a week.

BIO 345. COMPARATIVE VERTEBRATE ZOOLOGY. (4) Prerequisite: BIO 211. Comparative studies of the anatomy, physiology and functional adaptations of selected vertebrates with emphasis on evolutionary developments, especially in mammals. Three lecture hours and one laboratory period of three hours a week.

BIO 347. HISTOLOGY (4) Prerequisite: BIO 221 or 231 or 101 with consent of department. Animal tissues and organs; techniques of preparing tissues for analysis. Two lecture hours and two laboratory periods of two hours a week.

BIO 352. VERTEBRATE PALEONTOLOGY. (3) Prerequisite: BIO 221 or consent of department. Evolution of vertebrate animals from the first fishes to man. Three lecture hours a week.

BIO 355. ANIMAL BEHAVIOR. (3) Prerequisite: One course in biology or consent of department. Causation, development, function and evolution of behavior. Topics include communication systems, social systems and behavior of man. Three lecture hours a week.

BIO 355L. ANIMAL BEHAVIOR LABORATORY. (1) Prerequisite or corequisite: BIO 355. One laboratory period of three hours a week.

BIO 361. ECOLOGY. (3) Prerequisite: BIO 211, 221 and one course in chemistry. Interrelationships of organisms and their environment. Three lecture hours a week.

BIO 361L. ECOLOGY LAB. (1) Prerequisite or corequisite: BIO 361. Three hours laboratory a week.

BIO 369. ENVIRONMENTAL PROBLEMS. (3) Prerequisites: One course in biology and one course in chemistry. Biological aspects of air, water and land pollution; resource depletion; and over-population. Three lecture hours a week.

BIO 373. PLANT PHYSIOLOGY. (4) Prerequisites: BIO 221 and 231. Metabolic and physiological processes of plants and conditions which affect or regulate these processes. Three lecture hours and one laboratory period of three hours a week.

BIO 375. ANIMAL PHYSIOLOGY. (4) Prerequisite: BIO

221 and two courses in chemistry. Fundamental control mechanisms which operate to maintain the homeostatic state. Three lecture hours and one laboratory period of three hours a week.

BIO 391. RADIATION BIOLOGY. (3) Prerequisite: BIO 231 and one course in organic chemistry. Biological effects of ionizing radiation on living matter. Three lecture hours a week.

BIO 395. SPECIAL TOPICS IN BIOLOGY. (1-4) Prerequisite: consent of department. Used to comply with requests for special topics and advanced studies in biology. Lecture hours and laboratory hours will vary with the courses taught. May be repeated for credit.

BIO 425. NEUROBIOLOGY. (3) Prerequisite: BIO 231 or consent of department. Physiology and anatomy of nervous systems. Three lecture hours a week.

BIO 425L. NEUROBIOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 425. One laboratory period of three hours a week.

BIO 437. CYTOGENETICS. (4) Prerequisite: Biology 331. Plant and animal cells, with emphasis on problems of chromosomal organization, function and behavior, including the role of chromosome number and aberrations in speciation and evolution. Three lecture hours and one laboratory period of three hours a week.

BIO 438. MECHANISMS IN DEVELOPMENT. (3) Prerequisite: BIO 231 and 338 or consent of department. Cellular and molecular bases of differentiation, experimental analysis of causal and molecular bases of differentiation, experimental analysis of causal and controlling factors in development. Three lecture hours a week.

BIO 451. EVOLUTION AND POPULATION GENETICS. (3) Prerequisite: BIO 331 or 335. Theories of evolution and forces which affect population genetics. Three lecture hours a week.

BIO 461. LIMNOLOGY AND OCEANOGRAPHY. (4) Prerequisite: Two courses in chemistry. Geological, physical, chemical, and biological aspects of lakes, streams, estuaries, and oceans. Three lecture hours and one laboratory period of three hours a week.

BIO 473. IMMUNOLOGY. (4) Prerequisite: BIO 311. Selected topics including fundamental aspects of antigens and antibodies, their structures, specificities and reactions on cellular

and molecular levels. Two hours of lecture and one laboratory period of three hours a week.

BIO 473L. IMMUNOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 311. One laboratory period of three hours a week.

BIO 474. VIROLOGY. (4) Prerequisites: BIO 311 and two courses in organic chemistry. Morphology, classification, genetics and pathogenicity of bacterial, plant and animal viruses. Three lecture hours and one laboratory period of three hours a week.

BIO 475. ENDOCRINOLOGY. (3) Prerequisites: BIO 375 and one course in organic chemistry. Endocrine glands and their physiological roles in metabolism, growth and reproduction. Three lecture hours a week.

BIO 475L. ENDOCRINOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 475. One laboratory period of three hours a week.

BIO 476. COMPARATIVE INVERTEBRATE PHYSIOLOGY. (1) Prerequisites: BIO 221, 231 and one course in organic chemistry or consent of department. Maintenance of body fluids; acquisition, processing and distribution of nutrient materials; gas exchange; movement and coordination. Three lecture hours a week.

BIO 476L. COMPARATIVE INVERTEBRATE PHYSIOLOGY LABORATORY. (1) Prerequisite or corequisite: BIO 476. One laboratory period of three hours a week.

BIO 477. CELL PHYSIOLOGY. (3) Prerequisites: BIO 231 and CHE 231. The fundamental physiochemical properties of cells. Three lecture hours a week.

BIO 484. RADIOISOTOPE TECHNIQUES. (4) Prerequisite: two semesters of chemistry. Use of radioisotopes in science: properties of sub-atomic particles, instrumentation, safety procedures and radioisotope labeling. Three lecture hours and one laboratory period of three hours a week.

Courses for Gradute Students Only

The following courses are designed to allow the student to obtain an in-depth exposure to certain areas in biology. The tutorial courses will provide a foundation for the student's research endeavor; it may be tailored to supplement the student's specialization area. Courses numbered 691, 693 and 695 may be repeated for credit.

BIO 691. SEMINAR. (1 or 2) Four hours are required. Topics of current emphasis in biology.

BIO 693. SPECIAL TOPICS IN BIOLOGY. (1-4) May be repeated for credit. Prerequisite: consent of department. Courses in selected topics and advanced studies in biology. Lecture and laboratory hours will vary with the courses taught.

BIO 695. TUTORIAL. (1 to 4) Four hours are required. Directed study in areas of specialization in biology and related fields.

BIO 697. RESEARCH AND THESIS. Credit up to 8 hours.

CHEMISTRY

Chairman: Professor Gibson

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

CHE 411. INSTRUMENTAL ANALYSIS. (4) Prerequisites: CHE 311 and 341. A discussion of modern electrochemical and chromatographic techniques and of ultraviolet, infrared, NMR, ESR, Raman and mass spectroscopy. The discussion includes theory and practice, with considerable attention given to the instrument and elementary electronics involved in the techniques. Two lecture hours and two three-hour laboratory periods per week.

CHE 412. APPLIED MINICOMPUTER INTERFACING IN CHEMISTRY. (4) Prerequisite: departmental approval. Three lecture hours and one laboratory period of three hours each week. The background needed to apply minicomputer interfacing in chemical research, including machine language programming unique to DEC PDP-8 family minicomputers and elementary digital electronics, will be presented. Application of computer automation in chemical research will be discussed. The laboratory will involve individual projects concerned with the design, development and implementation of the software and hardware needed to solve an interfacing project by the student. The course is designed to provide a foundation for the use of computer automation in research. No background in programming or electronics is required.

CHE 421. ADVANCED INORGANIC CHEMISTRY. (4) Prerequisite: CHE 342. Theoretical inorganic chemistry in-

cluding the application of physico-chemical principles to the study of inorganic systems. Laboratory work involving inorganic preparations and characterization techniques. Three lecture hours and one laboratory period of three hours per week.

CHE 431. ADVANCED ORGANIC CHEMISTRY. (4) Prerequisites: CHE 232, 236 and 311. Recent developments in organic chemistry. Laboratory techniques of organic chemistry with emphasis on qualitative organic analysis including instrumental methods. Two lecture hours and two laboratory periods of three hours per week.

CHE 445. ADVANCED PHYSICAL CHEMISTRY. (3) Prerequisite: CHE 342. Topics selected from quantum chemistry and/or statistical thermodynamics. Three lecture hours per week.

CHE 475. PHYSICAL BIOCHEMISTRY. (3) Prerequisites: CHE 232, 236 and 341 or 345. Colloid systems, equilibria in biological fluids, mass and energy transport in fluids and in association with membranes, energy storage and dissipation with relation to specific chemical bonding, enzyme kinetics. Three lecture hours per week.

CHE 590. SPECIAL TOPICS IN CHEMISTRY. (1-4) Prerequisite: consent of the department. May be repeated for credit. Lectures and/or laboratory hours will vary with the nature of the course taught. Selected topics in chemistry.

Courses for Graduate Students Only

CHE 615. ADVANCED ANALYTICAL CHEMISTRY. (3) Prerequisite: CHE 411. The application of modern analytical methods to chemical problems. Emphasis is upon the chemical information, particularly structural, obtainable from these techniques. Three lecture hours per week.

CHE 625. THEORETICAL INORGANIC CHEMISTRY. (3) Prerequisite: CHE 421. Group theoretical treatment of current theories of inorganic chemistry. Topics covered: Ligand field theory, molecular orbital theory for complex ions, electronic spectra of complex ions and the magnetic properties of complex ions. Three lecture hours per week.

CHE 635. ADVANCED ORGANIC CHEMISTRY. (3) Prerequisite: CHE 431. A qualitative discussion of modern mechanistic interpretation of the relations between structure and reactivity. Special emphasis is placed on the role of reactive intermediates such as carbonium ions, carbanions, carbenes and radicals. Three lecture hours per week.

CHE 645. CHEMICAL THERMODYNAMICS. (3) Prerequisite: CHE 341 or 345. The postulatory basis of classical thermodynamics. Problems in chemical thermodynamics. The use of statistical mechanics for calculating thermodynamic functions. Three lecture hours per week.

CHE 646. RATES AND MECHANISMS. (3) Prerequisite: CHE 341 or 345. Consideration of chemical kinetics and mechanism schemes, particularly those of current interest. Three lecture hours per week.

CHE 650. SEMINAR-INTERNSHIP. (Variable credit, up to 3). Required for all teaching assistants and for those students planning teaching careers. Prerequisite: consent of department. Consideration of topics and trends in chemical education. Opportunities for supervised experience in the teaching of college chemistry will be offered. Graded *Pass/No Credit*. May be repeated for credit.

CHE 660. SPECIAL TOPICS AND INVESTIGATIONS. (Variable credit, up to 3). Prerequisite: consent of department. Directed study of topics of current chemical interest. May be repeated for credit.

CHE 680. RESEARCH SEMINAR. (1) Individual investigation and exposition of the results. May be repeated for credit.

CHE 680P. RESEARCH SEMINAR. (1) Discussion of recent developments and special topics in chemistry. Graded *Pass/No Credit*.

CHE 690. RESEARCH AND THESIS. (Variable credit, up to 16) Laboratory research for the thesis.

MATHEMATICS

Chairman: Professor Schell

COURSE DESCRIPTION

Advanced Undergraduate Courses Available for Graduate Credit in the M.Ed. Program

MAT 503. ARITHMETIC IN THE SCHOOL. (3) Prerequisite: MAT 101 or equivalent. A study of the number systems with emphasis placed upon the basic concepts and meanings, properties of addition, multiplication, inverses, systems of

numeration, and number line appropriate for each grade. (Does not count toward a major in mathematics. Open only to transfer students who have completed six semester hours of mathematics at another university.)

Advanced Undergraduate Courses Available for Graduate Credit in the M.Ed. or M.A.Ed. Program

MAT 300. TOPICS IN FOUNDATIONS OR HISTORY OF MATHEMATICS. (2-3) Prerequisite: consent of the department. Topics in the foundations or the history of mathematics selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 310. TOPICS IN DECISION MATHEMATICS. (2-3) Prerequisite: consent of the department. Topics in decision mathematics selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 311. OPERATIONS RESEARCH I. (3) Prerequisites: MAT 120 and 122 with a grade of C or better. The first course of a two semester sequence, including matrix algebra, convex sets, linear programming, queuing, and the theory of games.

MAT 312. OPERATIONS RESEARCH II. (3) Prerequisite: MAT 311. A continuation of MAT 311.

MAT 320. TOPICS IN PROBABILITY AND STATISTICS. (2-3) Prerequisite: consent of the department. Topics in probability and statistics selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 322. PROBABILITY AND STATISTICS I. (3) Prerequisite: MAT 241 with a grade of C or better. Continuous and discrete sample spaces, continuous and discrete random variables, moments and moment generating function, functions of random variables, some standard distributions, multivariate variables, laws of large numbers, limit theorems, stochastic processes.

MAT 340. TOPICS IN ANALYSIS. (2-3) Prerequisite: consent of the department. Topics in analysis selected so as to

supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 341. INTRODUCTORY ANALYSIS. (3) Prerequisites: MAT 241 and junior standing. Least upper bound principle; sequences; sequences of functions; topology of the real line; continuity and uniform continuity of functions; differential calculus; Riemann integration.

MAT 346. INTRODUCTION TO COMPLEX ANALYSIS. (3) Prerequisite: MAT 241 with a grade of C or better. Analytic function theory; complex integration; sequences; series; residue calculus and conformal mapping.

MAT 360. TOPICS IN ALGEBRA. (2-3) Prerequisite: consent of the department. Topics in algebra selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 370. TOPICS IN APPLIED MATHEMATICS. (2-3) Prerequisite: consent of the department. Topics in applied mathematics selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 371. APPLIED MATHEMATICS I. (3) Prerequisite: MAT 271 and 241 with grades of C or better. Boundary value problems, separation of variables, Fourier series and Fourier transforms, orthogonal functions.

MAT 372. APPLIED MATHEMATICS II. (3) Prerequisites: MAT 371 with a grade of C or better. A continuation of MAT 371.

MAT 376. NUMERICAL ANALYSIS. (3) Prerequisites: Computer Science 100, MAT 241 and 271. A treatment of the numerical solution of initial value and boundary value problems in ordinary differential equations. An introduction to the numerical solution of partial differential equations. Direct and iterative methods of solving systems of equations will be developed. Selected problems will be programmed for computer solution.

MAT 380. TOPICS IN GEOMETRY-TOPOLOGY. (2-3) Prerequisite: consent of the department. Topics in geometry and/or topology selected so as to supplement regular course offerings in this area of mathematics. Topics may be proposed by students and/or faculty and must be approved by the department. (May be repeated for additional credit with the approval of the department.)

MAT 381. FUNDAMENTAL CONCEPTS OF GEOMETRY. (3) Prerequisites: MAT 264 and consent of the department. Foundations of geometry, affine geometry, comparison of Euclidean and non-Euclidean geometries.

MAT 383. INTUITIVE TOPOLOGY. (3) Prerequisite: MAT 241. Introduction to combinatorial topology; topology of E^n; winding number and applications; homotopies and the fundamental group.

MAT 391. SEMINAR. (1-6) Prerequisite: consent of the department. Readings, study and discussion designed to develop the student's ability to study independently and to present his results properly.

MAT 392. SEMINAR. (1-6) Prerequisite: consent of the department. A continuation of MAT 391.

MAT 409. HISTORY OF MATHEMATICAL THOUGHT. (3) Prerequisite: consent of the department. A study of the development of mathematics in its historical setting from the earliest beginnings to modern times.

MAT 450. SELECTED TOPICS IN MATHEMATICS. (2-3) Prerequisite: consent of the department. Topics chosen from such fields as topology, differential geometry, complex analysis, applied mathematics or modern algebra. May be repeated for credit with the approval of the department.

MAT 491. SEMINAR. (1-6) Prerequisite: consent of the department. Individual investigation and appropriate exposition of the results.

MAT 492. SEMINAR. (1-6) Prerequisite: consent of the department. A continuation of MAT 491.

MAT 522. STATISTICAL TECHNIQUES. (3) Prerequisite: consent of the department. (Credit toward mathematics major given only to teacher education students.) Probability models, random variables, large sample statistics, inferential statistics. (Credit toward mathematics major not given for both MAT 522 and MAT 322.)

MAT 323. PROBABILITY AND STATISTICS II. (3) Prerequisite: MAT 322. Estimation, bias, consistency, efficiency, method of moments, maximum likelihood estimates, sufficient statistics, testing hypothesis, simple hypothesis, most powerful test, composite hypothesis, the power function, uniformly most powerful test, sequential tests, the sequential likelihood ratio test, some one sample problem, the classical chi-square test, the Kolmogorov-Smirnov test.

MAT 443. ANALYSIS I. (3) Prerequisite: MAT 244 with a grade of C or better. An introduction to metric spaces, including properties of subsets, continuity of functions, pointwise and uniform convergence of sequences of functions.

MAT 444. ANALYSIS II. (3) Prerequisite: MAT 443. An introduction to Lebesque integration and measure theory, starting with a construction of measure for closed and bounded intervals of R and extending to an axiomatic treatment of a general measure on abstract spaces.

MAT 463. MODERN ALGEBRA I. (3) Prerequisite: Consent of the department. The first course of a two-semester sequence covering topics in group theory, rings and ideals, fields and Galois theory.

MAT 464. MODERN ALGEBRA II. (3) Prerequisite: MAT 463. A continuation of MAT 463.

MAT 465. NUMERICAL LINEAR ALGEBRA. (3) Prerequisite: CSC 100, MAT 264, 271. Direct methods of solving linear systems by Gaussian elimination and triangular decomposition. Matrix and vector norms, condition numbers and accuracy of solutions. Methods for solving the algebraic eigenvalue problem; the power and inverse power methods, reduction to upper Hessenberg form and the QR algorithm. Iterative methods for solving large sparse matrix systems; Jacobi, Gauss-Seidel and successive overrelaxation (SOR) methods. Selected problems will be programmed for computer solution.

MAT 481. INTRODUCTION TO TOPOLOGY. (3) Prerequisite: consent of the department. Topics from set theory and point set topology such as cardinality, order, topological spaces, metric spaces, separation axiom, compactness and connectedness.

CSC 431. COMPUTER SIMULATION. (3) Prerequisite: CSC 111, MAT 322, junior standing and consent of the depart-

ment. A study of simulation as a tool of computer science or applied mathematics. Introduction of a simulation language such as DYNAMO or GASP and simulation methodology. Topics will include the design of simulation models, discrete and continuous systems and optimization techniques. Selected applications will also be covered.

Courses for Graduate Students Only

MAT 600. FOUNDATIONS OF MATHEMATICS. (3) Prerequisite: consent of the department. Sets, logic and axiomatics with examples drawn from algebra and geometry.

MAT 601. THE NUMBER SYSTEM. (3) Prerequisite: MAT 600 or consent of the department. An axiomatic development of the number system from the natural numbers to the complex numbers.

MAT 603. COMPUTER TECHNIQUES AND NUMERICAL METHODS.

MAT 604. TOPICS IN ANALYSIS. (3) Prerequisite: MAT 601 or consent of the department. A selection of topics forming an axiomatic and rigorous study of analysis including topics such as linear and affine transformation from E to E, differentiation of functions from E to E, integration theory and introduction to abstract spaces. May be repeated for credit.

MAT 606. MODERN ALGEBRA. (3) Prerequisite: consent of the department. Topics include groups, finitely generated abelian groups, homomorphisms, Sylow theory, rings and ideals, integral domains, fields, and polynomials over commutative rings and fields.

MAT 607. LINEAR ALGEBRA. (3) Prerequisite: consent of the department. Topics include systems of linear equations, and matrices, vector spaces, linear transformations, determinants, canonical forms of matrices, inner product spaces.

MAT 608. TOPICS IN GEOMETRY—TOPOLOGY. (3) Prerequisite: MAT 601 or consent of the department. A study of selected topics from geometry and topology such as: Euclidean geometry, non-Euclidean geometry, projective geometry, differential geometry, point-set topology, algebraic topology. May be repeated for credit.

MAT 609. SEMINAR. (1, 2 or 3) Prerequisite: admission to candidacy for M.A.Ed. A series of regularly scheduled meetings in which each student will present one or more topics selected

by the seminar coordinator. May be repeated for credit.

MAT 721. STATISTICS. (3) Prerequisites: MAT 264, 322, 323, 341. A survey course intended to acquaint the student with frequently used statistical techniques. Topics will be selected from: general discussion of estimation theory and hypothesis testing; comparison of parametric and nonparametric techniques in the one and two sample location and dispersion problems; goodness of fit criterion and tests for independence; measures of association; regression techniques; multi-sample inferential techniques, parametric and nonparametric.

MAT 741. COMPLEX ANALYSIS I. (3) Prerequisite: MAT 443. A study of homomorphic functions, complex integration, calculus of residues, representation theorems including the Laurent and Mittag-Leffler theorems, analytic continuation, elliptic functions, entire and meromorphic functions, normal families and conformal mapping.

MAT 742. COMPLEX ANALYSIS II. (3) Prerequisite: MAT 741. A continuation of MAT 741.

MAT 743. REAL ANALYSIS I. (3) Prerequisite: MAT 444. A study of integration and measure theory, including such topics as Lebesque-Stieltjes integrals, L_p-spaces, the Haar integral, the Riesz-Markov representation theorem and the Radon-Nikodym theorem.

MAT 744. REAL ANALYSIS II. (3) Prerequisite: MAT 743. A continuation of MAT 743.

MAT 761. LINEAR ALGEBRA. (3) Prerequisite: consent of the department. A study of the structure of abstract linear spaces, dual bases, quotient spaces, tensor products, and product spaces. A study of linear transformation, including projections, quotient transformations, and tensor products of transformations. A study of inner products and normed linear spaces, with a brief mention of examples such as Banach and Hilbert spaces.

MAT 763. MODERN ALGEBRA I. (3) Prerequisite: MAT 464. A study of the structure of groups, rings and modules. Topics will be selected from: groups with operators, normal series, Jordan-Hölder theorem, products, co-products, and Sylow theorems. Module topics selected from: free modules, projective and injective modules, exact sequences, tensor product, exterior algebra, dual modules, and modules over principal ideal domains.

MAT 764. MODERN ALGEBRA II. (3) Prerequisite: MAT 763. The structure of fields and commutative rings. Topics will

be selected from: transcendental and algebraic field extensions, Galois theory for finite and infinite field extensions. Ring topics selected from: localization of commutative rings, Noetherian rings, primary decomposition, Dedekind domains, and discrete valuations.

MAT 771. METHODS OF APPLIED MATHEMATICS. (3) Prerequisites: MAT 271, 371. A selection of topics involving applications of analysis such as variational methods in optimization, linear integral equations, vibration and eigenvalue problems, and asymptotic expansions.

MAT 776. ADVANCED NUMERICAL ANALYSIS. (3) Prerequisites: MAT 264, 271, 465. A selection of topics from such areas as iterative methods of solving linear and nonlinear systems of equations, approximation theory, splines and finite elements, and finite differences and finite element methods of solving partial differential equations.

MAT 781. TOPOLOGY I. (3) Prerequisite: consent of the department. A study of topological spaces and continuity. Concepts treated will include connectedness, compactness, and metrizability, and may include further topics in the various branches of topology, i.e., point-set topology, geometric topology and algebraic topology.

MAT 782. TOPOLOGY II. (3) Prerequisite: MAT 781. A continuation of MAT 781.

MAT 791. RESEARCH SEMINAR. (3) Prerequisite: consent of the department. A seminar in which independent study may be pursued by the student under the direction of a professor or in which special topics may be studied by a group of students under the direction of a professor.

MAT 792. RESEARCH SEMINAR. (3) Prerequisite: consent of the department. A continuation of MAT 791.

CSC 731. COMPUTER SIMULATION. (3) Prerequisites: MAT 122, 221, CSC 100 and consent of the department. A study of simulation as a total of applied mathematics or for optimization in operations research. Topics will include introduction to simulation and discrete simulation models, comparison of discrete change simulation languages, design of simulation experiments for optimization, analysis of data generated by simulation experiments, and validation of simulation models and results, a case study utilizing an available simulation language.

Acting Chairman: Associate Professor Oberhofer

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

PHY 321. CLASSICAL MECHANICS I. (3) Prerequisites: PHY 221; MAT 241 and 271. The first course of a two-semester sequence treating particle dynamics, the motion of systems of particles, rigid body motion, moving coordinate systems, Lagrange's equations, Hamilton's equations and small oscillations. Three lecture hours a week.

PHY 331. ELECTROMAGNETIC THEORY I. (3) Prerequisites: PHY 231: MAT 241 and 271. The first course of a two-semester sequence. Topics considered include electrostatics and magnetostatics in free space and in matter, the motion of charged particles in electric and magnetic fields, capacitance, dielectric theory, field energy, electromagnetic induction and inductance, vector and scalar potentials, magnetic properties of matter, Maxwell's equations, solutions of Maxwell's equations in free space and in matter, propagating electromagnetic waves and boundary value problems. Three lecture hours a week.

PHY 341. QUANTUM PHYSICS I. (3) Prerequisites: PHY 231 and 241, MAT 241 and 271, or consent of the department. Empirical necessity for quantum physics. Postulates of quantum physics. Analytical study of quantum physics of the atom. Three lecture hours a week.

PHY 345. STATISTICAL PHYSICS. (3) Prerequisite: PHY 231 and 241 or consent of the department. Introduction to the microscopic foundations for macroscopic systems. Kinetic theory and introductory statistical mechanics. Three lecture hours a week.

PHY 411. NUCLEAR PHYSICS. (3) Prerequisites: PHY 231 and 241 and MAT 271. A study of the nucleus, radioactivity, nuclear reactions, fission, fusion, interactions of radiation with matter and measurement of radiation. Three hours lecture per week.

PHY 421. CLASSICAL MECHANICS II. (3) Prerequisite: PHY 321. Continuation of PHY 321. Three lecture hours a week.

PHY 431. ELECTROMAGNETIC THEORY II. (3) Prerequisite: PHY 331. Continuation of PHY 331. Three lecture hours a week.

PHY 441. QUANTUM PHYSICS II. (3) Prerequisite: PHY 341. Continuation of PHY 341 with selected applications from atomic, molecular, solid state and nuclear physics. Three lecture hours a week.

PHY 495. SELECTED TOPICS IN PHYSICS. (0-4) Prerequisite: consent of the department. Used to comply with requests for more advanced special topics. May be repeated with approval of the department.

College of Social and Behavioral Sciences

Dean: Professor Schul

The College offers through its Department of Geography and Earth Sciences the Master of Arts degree in Geography. Through the Department of Political Science it offers the Master of Urban Administration.

Graduate courses offered by other departments of the College of Social and Behavioral Sciences also serve the professional and certification needs of students enrolled in the degree programs of the College of Human Development and Learning. Students enrolled in other graduate programs who meet the prerequisites may elect courses from the graduate offerings of such departments.

GEOGRAPHY AND EARTH SCIENCES

Chairman: Professor Stuart

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

Geography

GGY 301. GEOGRAPHY OF LATIN AMERICA. (3) A

regional study of the basic human and physical differences from place to place which affect economic, social and political conditions of the Latin American countries.

GGY 302. GEOGRAPHY OF POLAR REGIONS. (3) A study of the Arctic and Antarctic regions with particular emphasis on the history of exploration, the physical environment and political significance.

GGY 303. GEOGRAPHY OF ANGLO AMERICA. (3) The geographic structure of the United States and Canada with emphasis on both the physical environment and the patterns of human activities.

GGY 305. GEOGRAPHY OF EUROPE. (3) A regional study of geographic conditions and their relationship to economic, social and political problems in Europe.

GGY 308. GEOGRAPHY OF EAST ASIA. (3) A regional study emphasizing the relationships that exist between the physical environment and the cultural patterns in geographic regions of China, Korea, Japan and the nations of Southeast Asia.

GGY 309. GEOGRAPHY OF SOUTH AND SOUTHWEST ASIA. (3) A regional study emphasizing the relationships that exist between the physical environment and the cultural patterns in geographic regions of the Indian subcontinent and the Arabian peninsula.

GGY 311. POLITICAL GEOGRAPHY. (3) A study of the concepts of political geography as developed through topical studies of political phenomena as related to geographical features. Contemporary problems in international affairs will be considered.

GGY 313. MANUFACTURING GEOGRAPHY. (3) A study of factors relating to the nature, locations and development of manufacturing industries. Emphasis upon location theory, classification of manufacturers, principal areas of manufacturing and other phases of economic geography.

GGY 314. RESOURCE PLANNING. (3) A study of the resources of the United States, especially as they pertain to population, their use and misuses and present conservational practices as they relate to planning for future resource adequacy.

GGY 315. THE REGION AND PLANNING. (3) The regional concept and its application to urban and regional plan-

ning. Emphasis to be upon the techniques used in regional analysis.

GGY 316. GEOGRAPHY OF TERTIARY ACTIVITY. (3) A study of the spatial attributes of retail and wholesale activities, service facilities and financial establishments. Emphasis upon location research and delineation of trade and service areas.

GGY 317. THE GEOGRAPHY OF TRANSPORTATION SYSTEMS. (3) The study of those geographical and human factors which affect the movement of goods and people from place to place. Emphasis will be placed on transportation routes and networks, commodity flow patterns and the locational implications of freight rates.

GGY 318. GEOGRAPHY OF PRIMARY ACTIVITIES. (3) A study of the functional and spatial attributes of primary economic activities, including agriculture, fossil fuels and other minerals, forestry and fisheries. Emphasis upon a models approach.

GGY 319. GEOGRAPHY OF INDUSTRIAL ACTIVITY. (3) The analytical study of the principles that affect the geographic distribution of manufacturing activity. Emphasis will be on theory, model building and the practical application of theory to geographic research. Also covered will be the role of industrial activity in regional development and planning. Although not required, students should generally plan to take GGY 313 first.

GGY 320. GEOGRAPHY OF URBAN SYSTEMS. (3) A study of the relationships between the cities and the historical evolution of urban patterns.

GGY 321. GEOGRAPHIC STRUCTURE OF THE CITY. (3) An integrative study of the spatial structure of cities with emphasis on land use patterns and models, transportation systems, residential concentrations, commercial activities and manufacturing zones.

GGY 331. AIR PHOTO INTERPRETATION. (3) Prerequisites: ES 101 or consent of the department. The examination and interpretation of aerial photographs with the aid of stereoscopes. Emphasis is to be placed on the identification of physical and cultural features and their patterns. One lecture hour and two laboratory periods of two hours a week.

GGY 332. ADVANCED CARTOGRAPHY. (3) Prerequisite: GGY 202. Preparation of maps, figures and charts at a professional level of competence. Techniques to be emphasized include scribing and various related photographic processes in addition

to conventional pen and ink methods. Two laboratories of three hours each week.

GGY 350. ADVANCED GEOGRAPHIC ANALYSIS. (3) Prerequisite: GGY 203 or consent of instructor. An examination of advanced analytical methods in geography. The course will include multi-variate analysis and complex spatial models. Course will include computer usage.

GGY 402. SELECTED TOPICS IN GEOGRAPHY. (3) Prerequisite: consent of instructor. An intensive study of topics in geography. Topics will be offered from such areas as urban, manufacturing, tertiary activity, transportation, primary activity and political geography. Topics will vary from semester to semester. May be repeated for credit.

GGY 450. INDIVIDUAL STUDY IN GEOGRAPHY. (1-4) Permission of the department must be obtained and credit hours established in advance. May be repeated for credit. Tutorial study or special research problems.

Earth Science

ES 340. FIELD METHODS IN THE EARTH SCIENCES. (3) Prerequisites: ES 101 and 102 or consent of instructor. Introduction to field techniques used in geology, geomorphology, hydrology, soil science, and vegetation surveys. Two hours of lecture and one three-hour lab per week.

ES 341. NATURAL ENVIRONMENTS OF NORTH AMERICA. (3) A study of the physiographic regions of the United States, the genesis and pattern of the major landforms included within each, their distinctive characteristics and their cartographic interpretation.

ES 342. METEOROLOGY. (3) An introduction to atmospheric phenomena, weather producing processes, weather forecasting and weather effects upon man's activities.

ES 343. WEATHER ANALYSIS LABORATORY. (1) Pre- or co-requisite: ES 342 or consent of instructor. An introduction to weather observation and techniques of weather forecasting. One two-hour lab per week.

ES 345. MICROCLIMATE: URBAN ENVIRONMENTS. (3) ES 101 or introductory physics are recommended. Principles of micrometeorology/climatology using examples from urbanized areas. Analysis of local scale climates and man made modifications of these environments.

ES 346. CLIMATOLOGICAL DATA ANALYSIS. (1) Prerequisite: GGY 203 or Statistics. Pre-or co-requisite: ES 342 or ES 345 or ES 347 or consent of instructor. Methods of acquiring and analyzing climatological data in various types of applied problems. One two-hour lab per week.

ES 347. GLOBAL CLIMATES. (3) The global pattern of climates and climate producing factors. Climatic effects in relation to man and man's effect upon climate.

ES 350. MINERALS AND ROCKS. (4) Formation processes, composition and identification of rocks and minerals in the earth's crust with important abundance or special use. Three lectures and one lab two hours per week.

ES 355. GEOLOGICAL MAPPING AND INTERPRETATION. (4) Prerequisite: ES 102 and ES 350. A field-oriented study of the principles of structural geology and lithology. Two lecture hours and four laboratory hours per week.

ES 361. LANDSCAPE EVOLUTION. (4) Prerequisite: ES 102. Treatment of the processes shaping the earth's surface, genesis of landforms and the theories related to landform development. Three lecture hours and one laboratory period of two hours a week.

ES 365. PHYSICAL AND GEOLOGICAL OCEANOGRAPHY. (3) A study of the ocean environment emphasizing the ocean's place in planet earth's energy exchange systems. Emphasis also on the ocean as a complex solution, topography of the ocean floor, sedimentation and coastline morphology.

ES 370. INTRODUCTION TO ENVIRONMENTAL PROBLEMS. (3) Prerequisite: consent of the instructor. The study of major problems in the human environment.

ES 404. CONCEPT DEVELOPMENT IN EARTH SCIENCE. (3) Prerequisite: consent of the instructor. Examination of major concepts in earth science with emphasis on implementing their instruction at the primary and secondary school levels. One lecture hour and two laboratory periods of two hours each a week.

ES 405. SELECTED TOPICS IN EARTH SCIENCES. (3) Prerequisite: consent of instructor. An in-depth treatment of specific topics selected from one of the fields of the earth sciences, to provide increased specialization in various fields beyond the 300-level course. Topics will vary from semester to semester. May be repeated for credit.

ES 460. INDIVIDUAL STUDY IN EARTH SCIENCES. (1-4) Permission of the department must be obtained and credit hours established in advance. Tutorial study or special research problems. May be repeated for credit.

Courses for Graduate Students Only

GGY 600. GEOGRAPHIC RESEARCH. (6) This course will cover such topics as basic scientific paradigms; problem formulation and definition; proposal preparation and research design including data sources, data collection and data analysis; and description and presentation of the results including organizing and writing up the results, the preparation of graphics and oral presentation. May be required as a prerequisite for certain topics and seminar courses at the discretion of the instructors.

GGY 601. TOPICS IN ECONOMIC GEOGRAPHY. (3) Major topics in the location of economic activity examined generally and in a specific local occurrence. May be repeated for credit.

GGY 602. TOPICS IN URBAN GEOGRAPHY. (3) Major topics in the form and structure of urban areas examined generally and in a specific local occurrence. May be repeated for credit.

GGY 603. TOPICS IN POLITICAL GEOGRAPHY. (3) Major topics in the spatial aspects of political systems with special emphasis on urban and regional spatial patterns examined generally and in a specific local occurrence. May be repeated for credit.

GGY 604. TOPICS IN REGIONAL GEOGRAPHY. (3) Intensive examination of major spatial questions in a given region. May be repeated for credit.

GGY 605. TOPICS IN ENVIRONMENTAL STUDIES. (3) Major topics concerning the physical environment with emphasis on pollution problems in urban areas examined generally and in a specific local occurrence. May be repeated for credit.

GGY 606. TOPICS IN PHYSICAL GEOGRAPHY. (3) Major topics in physical geography examined generally and in a specific local occurrence. May be repeated for credit.

GGY 615. QUANTITATIVE ANALYSIS IN GEOGRAPHY. (3) A study of statistical and other quantitative techniques commonly used in geographic research. A knowledge of elementary statistics is assumed.

GGY 616. CARTOGRAPHIC PREPARATION AND ANALYSIS. (3) Cartographic design and analysis of qualitative and quantitative data. Emphasis to be on the preparation of maps, figures and charts. Techniques include scribing and various photographic processes. Two three-hour labs each week.

GGY 650. SEMINAR IN GEOGRAPHY. (3) Study of the current trends in geographic thought and research methods. *Pass/No Credit* grading.

GGY 651. TOPICS IN GEOGRAPHIC TECHNIQUES. (3) Detailed study of cartographic, remote sensing, quantitative techniques or field techniques. May be repeated for credit.

GGY 680. DIRECTED PROBLEMS IN GEOGRAPHY. (3) Individual research into geographic topics. May be repeated one time.

GGY 690-691. INDIVIDUAL RESEARCH PROJECT. (3,3) Individual research report based on directed study of a topic of geographic significance. *Pass/No Credit* grading.

Earth Sciences

ES 650. WORKSHOP IN GEOGRAPHY. (4) a. Earth Science I. A series of lectures on the subject matter of the atmosphere and hydrosphere with accompanying laboratory sessions.

ES 651. WORKSHOPS IN GEOLOGY. (4) a. Earth Science II. A series of lectures on subject matter of the lithosphere and space science with accompanying laboratory sessions.

POLITICAL SCIENCE

Chairman: Professor Lyons

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

PSC 301. POLITICAL SOCIALIZATION. (3) The study of the processes by which the political culture of the society is transmitted, formally and informally, to individual members. The course examines the learning process, the agents of socialization, the content of the learning and the consequences of political socialization for the functioning of the political system.

PSC 303. PUBLIC OPINION AND THE MASS MEDIA. (3) The nature and influence of public opinion and the effects of the news media on public opinion and political behavior. The course

emphasizes research on the development and content of public opinion and social psychological studies on the process of opinion change.

PSC 305. ELECTORAL BEHAVIOR. (3) An examination of the psychological, sociological and political variables that influence voting behavior and that affect electoral stability and change. The course emphasizes studies derived from survey research.

PSC 307. ETHNIC POLITICS. (3) The role of racial, religious and nationality groups in American politics.

PSC 311. THE CONGRESS. (3) Analysis of the role of the Congress in the American political system and its relationship with the other branches of government. The course includes study of the recruitment and socialization of congressmen, the committee system and roll call analysis.

PSC 312. THE PRESIDENCY. (3) Analysis of the role of the Presidency in the American political system and its relationship with the other branches of government. The course includes study of the strategies of presidential nomination and election, the sources and indicators of presidential power, how those who have held the office have shaped it and been shaped by it.

PSC 313. JUDICIAL BEHAVIOR. (3) Recommended prerequisites: PSC 390 or 391 or equivalent. Survey of the empirical studies concerning the determinants of the behavior of judges.

PSC 314. AMERICAN CONSTITUTIONAL LAW. (3) Examines the development of American constitutionalism, with a major emphasis on the roles played by the Supreme Court in the emergence of the American political system. Studies the justices as intellectual personalities engaged in the formulation of national policies. Utilizes Supreme Court decisions and opinions, histories, biographies and political science analyses to study the evolution of governmental powers and individual rights from colonial America through the end of the Roosevelt Court or Stone Court in 1946.

PSC 315. CIVIL RIGHTS AND LIBERTIES. (3) An analysis of Supreme Court decisions relating to civil rights and liberties.

PSC 317. POLITICS OF CRIMINAL LAW. (3) This course studies the politics of the Supreme Court's interactions with the Congress, Presidency, Justice Department and the states in the formulation of policies related to the criminal law.

PSC 318. LAW AND SOCIAL CHANGE. (3) Examines the

formulation of desegregation and poverty policies at the national, state and local levels. It studies the interaction of law and social change in these areas of public policy with an emphasis upon the political processes of courts and other legal subsystems.

PSC 321. URBAN POLITICS. (3) Analysis of the political process in the nation's metropolitan areas and the adjustments and responses of the U.S. governmental system in attempting to cope with the urban crisis.

PSC 322. CONTEMPORARY URBAN PROBLEMS. (3) A study of selected urban problems, including an analysis of the causes and consequences of governmental policies designed to cope with these problems. Topics of interest would include: crime and law enforcement, poverty and welfare, urban transportation, education, pollution, housing and redevelopment and urban revenue and expenditure patterns.

PSC 331. THE NATURE OF POLITICAL CHANGE. (3) Comparative study of political change with reference to problems of reform, revolution and nation-building.

PSC 336. COMPARATIVE URBAN POLITICS. (3) Urban growth, urban problems and political response in cross-national perspective. Focus on the urban policy process including political explanations for variations in national urban growth and urban structure. Attention to selected case and comparative studies on the U.S., Europe, Latin America, Africa and Asia.

PSC 343. AFRICAN POLITICS. (3) A comparative perspective on the politics of independence in sub-Saharan Africa and on the performance of the new political systems there in terms of national and international integration and the modernization of traditional societies and economics.

PSC 345. GOVERNMENT AND POLITICS OF THE SOVIET UNION. (3) The origins of Bolshevism and the substance and role of Marxist-Leninist ideology. The structure and functions of the Communist Party of the Soviet Union (CPSU). The principles of Soviet politics and the instruments of rule. The Soviet political system in transition and its relationship to world communism.

PSC 357. AMERICAN FOREIGN POLICY. (3) Systematic study of contemporary American foreign policy-making.

PSC 359. SOVIET FOREIGN POLICY. (3) The concepts, content and evolution of Soviet foreign relations, with emphasis upon change and continuity in Russian and Soviet policies.

Contemporary problems of Soviet diplomacy with other world powers and with the Marxist-Leninist nations of the Communist international system.

PSC 375. LEGAL THOUGHT. (3) A study of the contributions of natural law, legal positivism and legal realism to an understanding of what is the nature of law.

PSC 383. ADMINISTRATIVE BEHAVIOR. (3) The role of the administrator and public bureaucracy in modern democratic society. Particular attention will be given to the interplay of forces created by executives, legislators, political parties and interest groups.

PSC 384. DECISION MAKING IN PUBLIC ADMINISTRATION. (3) An examination of the major schools of decision making theory: rationalism, incrementalism and mixed-scanning. The use of these approaches in public administration in areas of budgeting, organization and program design and personnel will be studied, using problem sets and simulation techniques.

PSC 387. URBAN ADMINISTRATION. (3) A study of administration in the context of the urban setting. Attention will be given to urban governmental bureaucracies, their response to and interaction with their environments, and their roles in developing urban policy.

PSC 392. INTRODUCTION TO SURVEY RESEARCH. (3) An examination of the purposes, logic and procedures of survey research in the study of political attitudes and behavior. The major steps in survey research—planning, sampling, questionnaire design, data collection, processing data and analysis—will be reviewed. The student will have an opportunity to apply newly acquired skills in a field situation.

PSC 450. THE ROBERT A. TAFT INSTITUTE OF GOVERNMENT SEMINAR. (3) Open under special arrangement. *Pass/No Credit* grading.

Courses for Graduate Students Only

PSC 610. QUANTITATIVE RESEARCH METHODS IN URBAN ADMINISTRATION. (3) Theories of research design and measurement. Strategies for conducting research as well as the techniques employed in urban research problems.

PSC 611. INFORMATION SYSTEMS IN URBAN ADMINISTRATION. (3) Discussion and manipulation of data sets and information in urban administration. Attention will be given to the sources of information and their role in the administrative process.

PSC 620. PUBLIC VALUES AND URBAN ADMINISTRATION. (3) Survey of the normative environment in which urban administration exists and the role of the administrator in making value judgments.

PSC 621. URBAN ADMINISTRATION RESOURCE MANAGEMENT AND DEVELOPMENT. (3) The impact of public organizations on the urban economic environment is viewed from the perspective of securing funds for public activities and developing the urban area.

PSC 622. LAW AND URBAN POLICY. (3) Role of the judicial process in shaping urban policy in the field of urban administration and the role of administrative law in influencing the behavior of urban public organizations.

PSC 630. PUBLIC BUDGETING AND FINANCIAL MANAGEMENT. (3) The theory and practice of budgetary techniques including capital budgets and the management of governmental outlays.

PSC 631. URBAN ADMINISTRATIVE SYSTEMS ANALYSIS. (3) Review of systems analysis as a tool in conceptualizing administrative problems and applying it in organization design and structure.

PSC 632. PUBLIC PERSONNEL MANAGEMENT. (3) A review of the context of public personnel administration, the development and impact of civil service systems, and the concepts and issues in contemporary practices in governmental organizations.

PSC 633. PUBLIC ORGANIZATION BEHAVIOR AND DEVELOPMENT. (3) The role of group relations in shaping public organization behavior and contemporary approaches of applied behavioral science in team building and organization development.

PSC 635. USES OF SCIENCE AND NEW TECHNOLOGY IN PUBLIC MANAGEMENT. (3) Development of technological innovations and their utilization in public management, including futuristic design of public organizations.

PSC 639. SEMINAR IN PUBLIC MANAGEMENT PROB-

LEM SOLVING. (3) Seminar devoted to topics in public management which involves problem identification and solution.

PSC 685. URBAN INTERGOVERNMENTAL RELATIONS. (3) Survey of the complex relationships of governments in an urban environment set in the federal system. A review of the problems created by that system and the approaches to their solution.

PSC 640. CONFLICT MANAGEMENT IN PUBLIC ORGANIZATION. (3) The role of the administrator as a focal point in social change and the management of the conflict which occurs. Perspectives on the negotiation and bargaining process will be reviewed.

PSC 649. SEMINAR IN COMMUNITY RELATIONS. (3) Seminar devoted to contemporary topics in community relations, including relations of public organizations to the public and the role of advocacy planning in administration.

PSC 650. POLICY ANALYSIS METHODS. (3) Contemporary theories of policy analysis with special emphasis upon analytical techniques used to assess public policies. The role of social, political and cultural theories as they apply to the analysis of public policies.

PSC 651. APPLIED POLICY ANALYSIS. (3) An advanced consideration of policy analysis for the student. This course considers contrasting models of policy analysis and the appropriate quantitative techniques suited to each model. The seminar requires the treatment of a specific public policy problem and the use of quantitative analysis in problem assessment.

PSC 652. CASES IN URBAN PUBLIC POLICY PROCESS. (3) Analysis of the process of public policy development, identification of most common sources for initiation of public policy, and their interrelationship in specific cases in urban policy formulation.

PSC 655. SEMINAR IN PUBLIC PROGRAM EVALUATION. (3) Seminar is designed to deal with the ramifications of policy issues by evaluating the impact of programs in regard to their effectiveness, cost-benefit, and socio-political externalities.

PSC 660. POLITICS OF RESOURCE MANAGEMENT PLANNING. (3) Politics of the planning process in allocating resources in urban administration. The course deals with the topics of land use, public recreation, pollution and growth development in resources.

PSC 669. SEMINAR IN THE POLITICS OF URBAN ADMINISTRATIVE PLANNING. (3) Advanced seminar devoted to a discussion of the interaction of the planning process and the urban polity.

PSC 690-691. DIRECTED STUDY IN APPLIED URBAN ADMINISTRATION. (3) Individual project report on a directed topic of significance based on field experience in urban administration. *Pass/No Credit* grading.

PSYCHOLOGY

Chairman: Professor Grimsley

COURSE DESCRIPTIONS

Courses for Advanced Undergraduates and Graduates

PSY 501. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. (3) Assessing the exceptional child. Emphasis on current research in several diagnostic categories.

PSY 502. ADJUSTMENT PROBLEMS OF THE DISADVANTAGED. (3) A seminar concerned with such issues as racial attitudes, prejudice and poverty. Assigned reading and discussion deal with the application of psychological principles to these problems. Contributing lecturers with professional experience with problems of the disadvantaged will participate.

PSY 503. PSYCHOLOGY OF MENTAL RETARDATION. (3) An intensive study of the psychological and sociological aspects of mental retardation in relation to adjustment and educational development. Emphasis on current research and diagnostic categories.

PSY 504. TESTS AND MEASUREMENTS. (3) Prerequisite: PSY 101. A survey of psychological and educational measurements in current use. Emphasis will be placed on structure, administration and application of group tests. Individual tests such as Stanford Binet, WISC and WAIS will be reviewed.

PSY 505. ADVANCED PERSONALITY THEORY. (3) A critical evaluation of the major personality theories including an extensive survey of current research.

PSY 514. METHODS OF STUDENT EVALUATION. (3) A practical course of construction of teacher-made evaluation procedures. Special emphasis will be placed on writing and item analysis of essay and restricted-response achievement tests.

PSY 520. PSYCHOLOGY OF THINKING. (3) The study of theories of learning, thinking and cognition, especially as they apply to the educational process.

SOCIOLOGY AND ANTHROPOLOGY

Chairman: Professor Goodnight

COURSE DESCRIPTIONS

Courses for advanced Undergraduates and Graduates

ANT 490. TOPICS IN ANTHROPOLOGY. (1-3) Prerequisite: ANT 101 and consent of the department. Examination of specialized topics in Anthropology. May be repeated for credit as topics vary.

SOC 324. SOCIOLOGY OF THE COMMUNITY. (3) Prerequisite: SOC 151. Analysis of the concept of community, methods for delineating and describing the dimensions of community and examination of planned and unplanned community change.

SOC 354. SOCIOLOGICAL INQUIRY: THEORIES AND THEIR CONSTRUCTION. (3) Prerequisite: SOC 254 or consent of the instructor. Systematic analysis of competing and complementary theories in contemporary sociology and the acquisition and application of the basic skills of theory construction.

SOC 355. SOCIOLOGICAL INQUIRY: METHODS OF VERIFICATION. (4) Prerequisite: SOC 354. Examination and application of research principles and techniques for the verification of sociological propositions, including the formulation of the problem, the design of the research, and the collection, analysis and interpretation of the data. Three hours of lecture-discussion and a laboratory period of two hours each week.

SOC 361. SOCIALIZATION AND SOCIETY. (3) Prerequisite: SOC 151. Analysis of the process of socialization and social interaction and the sociocultural dimension of personality.

SOC 372. SOCIOLOGY OF DEVIANT BEHAVIOR. (3) Prerequisite: SOC 151. Examination of the forms, causes, consequences and control of deviant behavior.

SOC 373. JUVENILE DELINQUENCY. (3) Prerequisite: SOC 151. Sociological analysis of the problem of youth crime with special attention to major sociological and social Psychological theories of delinquency causation.

SOC 411. SOCIAL STRATIFICATION: POWER, PRIVILEGES AND PRESTIGE. (3) Prerequisite: SOC 151 or equivalent and consent of the instructor. Cross-cultural and comparative analysis of the distributive system of societies focusing upon the explanation of inequality among societies and the variations in power, privilege and prestige.

SOC 413. SOCIOLOGY OF WORK, OCCUPATIONS AND PROFESSIONS. (3) Prerequisite: SOC 151 or equivalent and consent of the instructor. Analysis of occupational and professional socialization and roles; career patterns and professional ideologies and occupational structure and change.

SOC 415. SOCIOLOGY OF COMPLEX ORGANIZATION. (3) Prerequisite: SOC 151 or equivalent and consent of the instructor. Analysis of the structure and dynamics of complex organizations with special attention to rationalization through bureaucracy and the mechanisms of change.

SOC 432. SEMINAR IN CONTEMPORARY AMERICAN FAMILY SYSTEMS. (3) Prerequisite: SOC 151 or equivalent and consent of instructor. Analysis of the development of modern American family systems, their relationship to American society and their contributions to personality development with special emphasis on conceptual frameworks for family analysis.

SOC 456. SEMINAR IN ADVANCED SOCIOLOGICAL INQUIRY. (3) Prerequisite: SOC 355. Synthesis and utilization of basic sociological principles and techniques in supervised independent theorization and verification including the presentation of projects to seminar members and department faculty for evaluation and criticism.

SOC 485. APPLIED SOCIOLOGY. (3) Prerequisite: SOC 355 or consent of the instructor. Exploration of the role of sociologists in law and law enforcement, medicine, social work and social welfare, management, the military establishment, community development, foreign policy, the development of developing countries, urban poverty and planning and the educational

system. Emphasis on the adaptation of sociological research methods and theory to temporal and other limitations imposed by the special characteristics of applied research.

SOC 490. TOPICS IN SOCIOLOGY. (1-3) Prerequisite: consent of the department. Examination of specialized sociological topics selected by students and faculty. May be repeated for credit. (A listing and brief description of specific courses offered each term is available from the departmental office.)

SOC 495. DIRECTED INDIVIDUAL STUDY. (1-4) Prerequisite: consent of the department. Supervised investigation of a sociological problem of special interest to the student. May be repeated for credit.

SOC 510. INTERGROUP RELATIONS. (3) Prerequisite: introductory sociology or consent of instructor. Analysis of the social and social-psychological determinants of intergroup relations through an examination of labor-management relations, race relations, relations between social classes, ethnic, national and religious groups and other major social groupings in contemporary societies. Attention will be given to processes which introduce change in patterns of relations.

SOC 557. ADVANCED GENERAL SOCIOLOGY I: SOCIAL STRUCTURE. (3) Prerequisite: consent of the department. Systematic examination of theories and principles of social structure and organization with special emphasis on role and systems analysis and the segmentation and integration of society.

SOC 558. ADVANCED GENERAL SOCIOLOGY II: SOCIOCULTURAL CHANGE. (3) Prerequisite: consent of the department. Systematic examination of the principal theories and principles of sociocultural change with special emphasis on the evolutionary development of societal types, industrialization and urbanization of American society and transition of developing countries.

UNIVERSITY REGULATIONS

THE EXPECTATION OF THE UNIVERSITY

The University expects from its students a decent respect for other human beings, a regard for the law and a willingness to embrace membership in an academic community.

Some regulations are always necessary in a society of men and women. It is the intent of the University to keep the number of such regulations at a minimum and to depend rather upon the acceptance on the part of each individual of his responsibility as a member of the University.

As members of the student body of the University of North Carolina at Charlotte, graduate students are subject to the honor code adopted by that body during the fall semester of 1965, which reads as follows:

> *Under the Honor Code you are on your honor not to cheat, lie or steal, and if you see another student doing so, you are on your honor to report the individual and the circumstances to the appropriate student agency.*

POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

The policies, procedures and disciplinary actions which will be followed in cases of disruption of the educational process are set forth in the following:

Section 1. Policies Relating to Disruptive Conduct

The University of North Carolina has long honored the right of free discussion and expression, peaceful picketing and demonstrations, the right to petition and peaceably to assemble. That these rights are a part of the fabric of this institution is not questioned. They must remain secure. It is equally clear, however, that, in a community of learning, willful disruption of the educational process, destruction of property, and interference with the rights of other members of the community cannot be tolerated. Accordingly, it shall be the policy of the University to deal with any such disruption, destruction or interference promptly and effectively, but also fairly and impartially without regard to race, religion, sex or political beliefs.

Section 2. Definition of Disruptive Conduct

(a) Any faculty member (the term "faculty member," where-

ever used in this statement, shall include regular faculty members, full-time instructors, lecturers and all other persons exempt from the North Carolina State Personnel System [Chapter 126 of the General Statutes as amended] who receive compensation for teaching, or other instructional functions, or research at the University), any graduate student engaged in the instructional program, or any student who, with the intent to obstruct or disrupt any normal operation or function of the University or any of its component institutions, engages, or incites others to engage, in individual or collective conduct which destroys or significantly damages any University property, or which impairs or threatens impairment of the physical well-being of any member of the University community, or which, because of its violent, forceful, threatening or intimidating nature or because it restrains freedom of lawful movement, otherwise prevents any member of the University community from conducting his normal activities within the University, shall be subject to prompt and appropriate disciplinary action, which may include suspension, expulsion, discharge or dismissal from the University.

The following, while not intended to be exclusive, illustrate the offenses encompassed herein, when done for the purpose of obstructing or disrupting any normal operation or function of the University or any of its component institutions: (1) occupation of any University building or part thereof with intent to deprive others of its normal use; (2) blocking the entrance of exit of any University building or corridor or room therein with intent to deprive others of lawful access to or from, or use of, said building or corridor or room; (3) setting fire to or by any other means destroying or substantially damaging any University building or property, or the property of others on University premises; (4) any possession or display of, or attempt or threat to use, for any unlawful purpose, any weapon, dangerous instrument, explosive, or inflammable material in any University building or on any University campus; (5) prevention of, or attempt to prevent by physical act, the attending, convening, continuation or orderly conduct of any University class or activity or of any lawful meeting or assembly in any University building or on any University campus; and (6) blocking normal pedestrian or vehicular traffic on or into any University campus.

(b) Any person engaged in the instructional program who fails or refuses to carry out validly assigned duties, with the intent to obstruct or disrupt any normal operation or function of the University or any of its component institutions, shall be subject to prompt and appropriate disciplinary action under this policy if (but only if) his status is such that he is not subject to the provisions of any trustee or Board of Governors policies governing suspension and discharge of faculty members.

Section 3. Responsibilities of Chancellors

(a) When any chancellor has cause to believe that any of the provisions of this policy have been violated, he shall forthwith investigate or cause to be investigated the occurrence, and upon identification of the parties involved shall promptly determine whether any charge is to be made with respect thereto.

(b) If he decides that a charge is to be made, he shall, within thirty (30) days after he has information as to the identity of the alleged perpetrator of the offense but in no event more than twelve (12) months after the occurrence of the alleged offense, (i) refer the case to the appropriate existing University judical body, or (ii) refer the matter to a Hearing Committee drawn from a previously selected Hearing Panel which, under this option, is required to implement action for violation of Section 2 (a) or (b) of this statement. If the case is referred to an existing University judicial body under (i) above, the procedural rules of that body shall be followed, and subsections (c) through (f) below shall not be applicable. If the matter is referred to a Hearing Committee under (ii) above, the procedural rules prescribed in subsections (c) through (f) below shall be followed.

(c) The accused shall be given written notice by personal service or registered mail, return receipt requested, stating:

(1) The specific violation of this policy with which the accused is charged.

(2) The designated time and place of the hearing on the charge by the Hearing Committee, which time shall be not earlier than seven (7) nor later than ten (10) days following receipt of the notice.

(3) That the accused shall be entitled to the presumption of innocence until found guilty, the right to retain counsel, the right to present the testimony of witnesses and other evidence, the right to cross-examine all witnesses against him, the right to examine all documents and demonstrative evidence adverse to him, and the right to transcript of the proceedings of the hearing.

(d) The Hearing Committee shall determine the guilt or innocence of the accused. If the person charged is found guilty, the Hearing Committee shall recommend to the chancellor such discipline as said body determines to be appropriate. After considering such recommendation the chancellor shall prescribe such discipline as he deems proper. In any event, whether the person is found guilty or not guilty, a written report shall be made by the chancellor to the president within ten (10) days.

(e) Any person found guilty shall have ten (10) days after notice of such finding in which to appeal to the president of the University. Such an appeal if taken shall be upon the grounds set forth in Section 5.

(f) Any accused person who, without good cause, shall fail to appear at the time and place for the hearing of his case by the Hearing Committee shall be suspended indefinitely or discharged from University employment.

(g) A chancellor, unless so ordered or otherwise prevented by court, shall not be precluded from carrying out his duties under this policy by reason of any pending action in any state or federal court. Should a delay occur in prosecuting the charge against the accused because the accused or witnesses that may be necessary to a determination of the charge are involved in state or federal court actions, the time limitations set forth above in this Section 3 shall not apply.

(h) Conviction in any state or federal court shall not preclude the University or any of its officers from exercising disciplinary action in any offense referred to in this policy.

(i) Nothing contained in this policy shall preclude the president or any chancellor from taking any other steps, including injunctive relief or other legal action, which he may deem advisable to protect the best interests of the University.

Section 4. Aggravated Acts or Threatened Repetition of Acts

(a) The chancellor of each of the component institutions of the University shall appoint an Emergency Consultative Panel which shall be composed of not less than three (3) nor more than five (5) faculty members and not less than three (3) nor more than five (5) students who shall be available to advise with the chancellor in any emergency. No member of such panel shall serve for more than one (1) year unless he be reappointed by the chancellor. The chancellor may make appointments, either temporary or for a full year, to fill any vacancies which may exist on the panel.

(b) If, in the judgment of the chancellor, there is clear and convincing evidence that a person has committed any of the acts prohibited under this policy which, because of the aggravated character or probable repetition of such act or acts, necessitates immediate action to protect the University from substantial interference with any of its orderly operations or functions or to prevent threats to or acts which endanger life or property, the chancellor, with the concurrence as hereinafter provided of the

Emergency Consultative Panel established pursuant to (a) above, may forthwith suspend such person from the University and bar him from the University campus; provided, however, that in the event of such suspension, the person suspended shall be given written notice of the reason for his suspension, either personally or by registered mail addressed to his last known addresses, and shall be afforded a prompt hearing, which, if requested, shall be commenced within ten (10) days of the suspension. Except for purposes of attending personally any hearings conducted under this policy, the bar against the appearance of the accused on the University campus shall remain in effect until final judgment has been rendered in his case and all appellant proceedings have been concluded, unless such restriction is earlier lifted by written notice from the chancellor.

(c) A quorum of the Emergency Consultative Panel provided for in (a) above shall consist of not less than four (4) of its members, and the required concurrence shall have been obtained if a majority of such quorum shall indicate their concurrence. The chancellor shall meet personally with members of such panel at the time he seeks concurrence, if it is feasible to do so. However, if the circumstances are such that the chancellor deems it not to be feasible to personally assemble such members, then he may communicate with them or the required number of them individually by telephone or by such other means as he may choose to employ, in which event he may proceed as provided in (b) above after the required majority of such members have communicated their concurrence to him.

(d) In the chancellor's absence or inability to act, the president may exercise the powers of the chancellor specified in this section in the same manner and to the same extent as could the chancellor but for such absence or inability to act.

Section 5. Right of Appeal

Any person found guilty of violating the provisions of this policy by the Hearing Committee referred to in Section 3 shall have the right to appeal the finding and the discipline imposed upon him to the president of the University. Any such appeal shall be in writing, shall be based solely upon the record, and shall be limited to one or more of the following grounds.

(1) That the finding is not supported by substantial evidence;

(2) That a fair hearing was not accorded the accused; or

(3) That the discipline imposed was excessive or inappropriate.

It shall be the responsibility of the president to make prompt disposition of all such appeals, and his decision shall be rendered within thirty (30) days after receipt of the complete record on appeal.

Section 6. No Amnesty

No administrative official, faculty member, or student of the University shall have authority to grant amnesty or to make any promise as to prosecution or non-prosecution in any court, state or federal, or before any student, faculty, administrative, or trustee committee to any person charged with or suspected of violating Section 2 (a) or (b).

Section 7. Publication

The provisions of this policy shall be given wide dissemination in such manner as the president or chancellors may deem advisable, and shall be printed in the official catalogs which may be issued by each component institution of the University.

FIREARMS AND OTHER WEAPONS PROHIBITED

An act to protect persons on the property of any public or private educational institution from persons carrying firearms or other weapons was enacted by the 1971 General Assembly. This act, which is in full force and effect on the UNC campus, is as follows:

It shall be unlawful for any person to possess, or carry, whether openly or concealed, any gun, rifle, dynamite cartridge, bomb, grenade, mine, powerful explosive as defined in G.S. 14-284.1, bowie knife, blackjack, metallic knuckles or any other weapon of like kind, not used solely for instructional or school sanctioned ceremonial purposes, in any public or private school building or bus, or any public or private school campus, grounds, recreation area, athletic field, or other property owned, used or operated by any board of education, school, college, or university board of trustees or directors for the administration of any public or private educational institution. For the purpose of this section a self-opening or switch-blade knife is defined as a knife containing a blade or blades which open automatically by the release of a spring or a similar contrivance, and the above phrase "weapon of like kind" includes razors and razor blades (except solely for personal shaving) and any sharp pointed or edged instrument except unaltered nail files and clips and tools used solely for

preparation of food, instruction and maintenance. This section shall not apply to the following persons: officers and enlisted personnel of the armed forces of the United States when in discharge of this official duties as such and acting under orders requiring them to carry arms or weapons, civil officers of the United States while in the discharge of their official duties, officers and soldiers of the militia and the national guard when called into actual service, officers of the state, or of any county, city, or town, charged with the execution of the laws of the state when acting in the discharge of their official duties, any pupils who are members of the Reserve Officer Training Corps and who are required to carry arms or weapons in the discharge of their official class duties.

Any person violating the provisions of this Act shall be guilty of a misdemeanor and upon conviction shall be punished in the discretion of the court by fine or imprisonment or by both such fine and imprisonment, not to exceed five hundred dollars ($500) fine or six months imprisonment.

ALCOHOLIC BEVERAGES

State law regulates the possession and use of alcoholic beverages. Excessive and/or inappropriate uses, as defined by state law, are punishable by criminal penalty. Also, because the University community presents a separate and special context in which an environment compatible with academic endeavors must be preserved, additional University regulation of the possession and use of alcoholic beverages on campus is necessary and proper.

It shall be the responsibility of the chancellor or his delegate to adopt and enforce regulations covering the possession and use of alcoholic beverages on the campus of the University.

DRUG ABUSE

The illicit and improper use of certain drugs (for example, cannabis, amphetamines, barbiturates, opiates and hallucinogenic drugs) is incompatible with personal welfare and the pursuit of academic excellence and will not be tolerated by the University. Furthermore, the illicit possession or transfer of these drugs is a state and/or federal offense, and the University will cooperate fully with appropriate authorities in the enforcement of the law.

The fundamental concern and responsibility of the University relative to the abuser of drugs is constructive rehabilitation.

Within the limitations imposed by law, (Chapter 90, Section 111.3, and Section 113.6, Narcotic Drug Act, for example) the University will promote a program of education and encourage medical consultation in order to meet this responsibility. But it will act firmly through formal disciplinary procedures to control drug abuse in those instances where these measures prove insufficient.

Disciplinary action relative to drug abuse in the University will be administered by the University Discipline Committee.

DIRECTORY

GRADUATE ADMINISTRATIVE BOARD

Elinor Brooks Caddell, B.S.N.E., M.S.N. .....*Associate Professor of Nursing (1978)*

Kenneth Malcolm Dunkley, A.B., M.A., Ph.D. .....*Assistant Professor of History (1978)*

Virginia Shaw Geurin, B.S.B.A., M.B.A., Ph.D. .....*Assistant Professor of Business Administration (1977)*

Ben Hall Hackney, Jr., A.B., M.Ed., D.Ed. .....*Chairman, Graduate Faculty; Chairman, Graduate Administration Board; Professor of Human Development and Learning (1977)*

Charles Clinton Hight, B.S. .....*Professor and Dean of Architecture (1977)*

Gene Richard Hogan, A.B., M.S., Ph.D. ....*Associate Professor of Biology (1977)*

Harvey Frank Murphy, B.S., M.A., Ph.D. .....*Chairman, Department of Health and Physical Education and Associate Professor of Health and Physical Education (1977)*

James Winford Selby III, B.A., M.A., Ph.D. .....*Assistant Professor of Psychology (1978)*

Robert Douglas Snyder, B.S.M.E., M.S.M.E., Ph.D. ..*Chairman and Professor of Engineering Science, Mechanics, and Materials (1978)*

Elbert Daymond Turner, Jr., B.A., M.A., Ph.D. .....*Director of Graduate Studies and Professor of Spanish (Ex Officio)*

Carolyn Sue Adair .....*Student Member (1976-77)*

Dale L. Wheeler .....*Student Member (1976-77)*

Laramie Williams .....*Student Member (1976-77)*

Judith Windle .....*Student Member (1976-77)*

THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE ADMINISTRATIVE OFFICERS AND STAFF

Chancellor's Office

Dean Wallace Colvard, B.S., M.A., Ph.D. ..... *Chancellor*

William McKinley Steimer, B.A., J.D. ..... *Assistant to the Chancellor*

Academic Affairs

Philip Elwin Hildreth, A.B., M.A., Ph.D. ..... *Vice Chancellor for Academic Affairs*

J. Barry Lesley, B.A., M.B.A. ..... *Director, Academic Grants and Contracts*

Ronald Stephen Ostrowski, A.A., B.S., M.S., Ph.D. ..... *Assistant to the Vice Chancellor*

Newton Hall Barnette, B.S., M.S., Ph.D. ..... *Dean, College of Engineering*

Sherman LeRoy Burson, B.S., Ph.D. ..... *Dean, College of Science and Mathematics*

John Bryant Chase, Jr., A.B., M.A., Ed.D. ..... *Dean, College of Human Development and Learning*

Charles Clinton Hight, B.Arch. ..... *Dean, College of Architecture*

Marinell Hargrove Jernigan, B.S., M.S., Ed.D. ..... *Dean, College of Nursing*

William Stephan Mathis, B.Mus., M.Mus., Ph.D. ..... *Dean, College of Humanities*

Allan Van Palmer, B.S., M.B.A., Ph.D. ..... *Dean, College of Business Administration*

Norman Willard Schul, B.S., M.A., Ph.D. ..... *Dean, College of Social and Behavioral Sciences*

Charles Michael Muscat, B.S. ..... *Manager, Computational Laboratory and Computer Graphics Center*

David Eugene Nixon, B.S., M.S., Ph.D. ..... *Director, Computer Center*

James Ronald Short, B.S.B.A. ..... *Assistant Director, Computer Center*

George Logan Grubbs, B.S. ..... *Director of Student Information Systems*

Seth Howard Ellis, A.B., A.M., Ph.D. ..... *Director, Continuing Education and Summer Programs*

Dorothea G. Lakin, B.A. ..... *Coordinator*

John Daniel Moore, A.B., M.Ed., Ed.D. ..... *Coordinator*

Elbert Daymond Turner, Jr., B.A., M.A., Ph.D. .... *Director, Graduate Studies*

James Lee Cox, B.A., M.P.A., Ph.D. ..... *Director, Institute for Urban Studies and Community Service*

Wallace Patrick Beaton, B.S., M.Ed., Ph.D. ..... *Research Director*

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Ikey Monroe Gardner, B.S. ..... *Men's Tennis and Soccer Coach*

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David Edwin Frye, B.A., B.D., M.S. ..... *University Chaplain*

Paul Carrol Roy Larsen, A.B., M.Div. ..... *University Chaplain*

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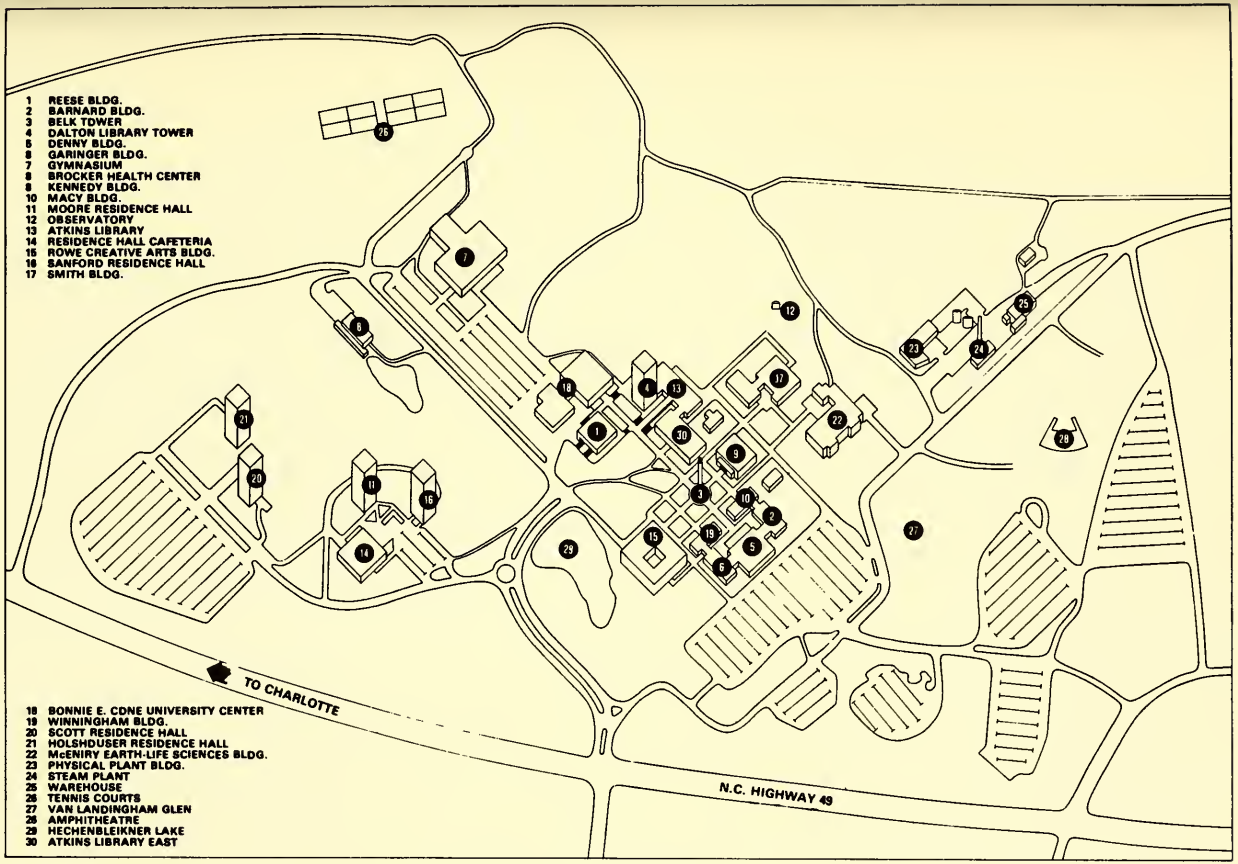
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